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SOS THE ROPE
by Piers Anthony

GUILLAUME APOLLINAIRE
HAYDEN HOWARD
ISAAC ASIMOV

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Fantasy and Science Fiction

JULY

Including Venture Science Fiction

NOVEL

Sos the Rope (*1st of 3 parts*) — PIERS ANTHONY — 4

SHORT STORIES

The Psychedelic Children — DEAN R. KOONTZ — 64
Key Item — ISAAC ASIMOV — 76
Ultimate Defense — LARRY BRODY — 80
The Sublimation World — JOHN SLADEK — 103
Beyond Words — HAYDEN HOWARD — 117

SPECIAL REPRINT FEATURE

Remote Projection — GUILLAUME APOLLINAIRE — 92

FEATURES

Books — ISAAC ASIMOV, JOANNA RUSS, VIRGINIA CAREW — 53
Cartoon — GAHAN WILSON — 63
Science: Little Lost Satellite — ISAAC ASIMOV — 106
F&SF Marketplace — 129

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The following story was the winner of the Science Fiction Novel Award that was announced in our August 1967 issue. Its author was born in England in 1934 but had all his schooling in America. "My literary career began inauspiciously: I flunked first grade two years in a row." Mr. Anthony discovered science fiction at age 13 and wrote sf for eight years before making his first sale in 1962. Since then he has published fourteen stories and four novels (including SOS, *which will be published later this year by Pyramid Books) and is now a full-time free-lance writer, living in Florida. Story contests have a spotty history, but this one has been successful in that it has turned up a winner of superior quality: a story with a good, strong plot, interesting ideas, characters you can care about, and plenty of rousing action.*

SOS THE ROPE

by Piers Anthony

(FIRST OF THREE PARTS)

I

THE TWO ITINERANT WARRIORS approached the hostel from opposite directions. Both were garbed conventionally: dark pantaloons cinched at waist and knee, loose white jacket reaching to hips and elbows and hanging open at the front, elastic sneakers. Both wore their hair medium: cropped above the eyebrows in front, above the ears on the sides, and above the jacket collar behind, uncombed. Both beards were short and scant.

The man from the east wore a standard straight sword, the plastic scabbard strapped across his broad back. He was young and large, if unhandsome, and his black brows and hair gave him a forbidding air which did not match his nature. He was well muscled and carried his weight with the assurance of a practicing athlete.

The one from the west was shorter and more slender, but also in fine physical trim. His blue eyes and fair hair overlooked a countenance so finely molded that it would have been almost woman-

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ish without the beard, but there was nothing effeminate about his manner. He pushed before him a little one-wheeled cart, a barrow-bag, from which several feet of a shining metal pole projected.

The dark-haired man arrived before the round building first and waited politely for the other to come up. They surveyed each other briefly before speaking. A young woman emerged, dressed in the attractive one-piece wraparound of the available. She looked from one visitor to the other, her eyes fixing for a moment upon the handsome golden bracelet clasping the left wrist of each, but kept her silence.

The sworder glanced at her once as she approached, appreciating the glossy midnight length of her tresses and the studied voluptuousness of her figure, then he spoke to the man with the cart. "Will you share lodging with me tonight, friend? I seek mastery of other things than men."

"I do seek mastery in the circle," the other replied, "but I will share lodging." They smiled and shook hands.

The blond man faced the girl. "I need no woman."

She dropped her eyes, disappointed, but flicked them up immediately to cover the sworder. He responded after an appropriate pause. "Will you try the night with me, then, damsel? I promise no more."

The girl flushed with pleasure. "I will try the night with you, Sword, expecting no more."

He grinned and clapped his right hand to the bracelet, twisting it off. "I am Sol the Sword, of philosophic bent. Can you cook?" She nodded, and he handed the bracelet to her. "You will cater to my friend also, for the evening meal, and clean his uniform."

The other man interrupted his smile. "Did I mishear your name, sir? *I* am Sol."

The larger warrior turned slowly, frowning. "I regret you did not. I have held this name since I took up my blade this spring. But perhaps you employ another weapon? There is no need for us to differ."

The girl's eyes went back and forth between them. "Surely your arm is the staff, warrior," she said anxiously, gesturing at the barrow.

"I am Sol," the man said firmly, "of the staff—and the sword. No one else may bear my name."

The sworder looked disgruntled. "Do you quarrel with me, then? I would have it otherwise."

"I quarrel only with your name. Take another, and there is no strife between us."

"I have earned this name by this blade. I cannot give it up."

"Then I must deprive you of it in the circle, sir."

"Please," the girl protested, "wait until morning. There is television inside, and a bath, and I will fix a fine repast."

"Would you borrow the bracelet

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of a man whose name has been questioned?" the sworder inquired gently. "It must be now, pretty plaything. You may serve the winner."

She bit her red lip, chastened, and handed back the bracelet. "Then will you permit me to stand witness?"

The men exchanged glances and shrugged. "Stand witness, girl, if you have the stomach for it," the blond man said. He led the way down a beaten side trail marked in red.

A hundred yards below the cabin a fifteen-foot ring was laid out, marked by a flat plastic rim of bright yellow and an outer fringe of gravel. The center was flat, finely barbered turf, a perfect disk of green lawn. This was the battle circle, heart of this world's culture.

The black-haired man removed his harness and jacket to expose the physique of a giant. Great sheaths of muscle overlaid shoulders, rib cage and belly, and his neck and waist were thick. He drew his sword: a gleaming length of tempered steel with a beaten silver hilt. He flexed it in the air a few times and tested it on a nearby sapling. A single swing and the tree fell, cleanly severed at the base.

The other opened his barrow and drew forth a similar weapon from a compartment. Packed beside it were daggers, singlesticks, a club, the metal ball of a morning-star mace and the long quarterstaff. "You master *all* these weapons?" the girl inquired, astonished. He only nodded.

The two men approached the circle and faced each other across it, toes touching the outer rim. "I contest for the name," the blond declared, "by sword, staff, stick, star, knife and club. Select an alternate, and this is unnecessary."

"I will go nameless first," the dark one replied. "By the sword I claim the name, and if I ever take another weapon, it will be only to preserve that name. Take your best instrument; I will match it with my blade."

"For name *and* weapons, then," the blond said, beginning to show anger. "The victor will possess them all. But since I wish you no personal harm, I will instead oppose you with the staff."

"Agreed!" It was the other's turn to glower. "The one who is defeated yields the name and these six weapons, nor will he ever lay claim to any of these again!"

The girl listened appalled, hearing the stakes magnify beyond reason, but did not dare protest.

They stepped inside the battle circle and became blurs of motion. The girl had expected a certain incongruity, since small men usually carried the lighter or sharper weapons, while the heavy club and long staff were left to the large men. Both warriors were so skilled, however, that such notions became

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meaningless. She tried to follow thrust and counter, but soon became hopelessly confused. The figures whirled and struck, ducked and parried, metal blade rebounding from metal staff and in turn blocking defensively. Gradually she made out the course of the fight.

The sword was actually a fairly massive weapon; though hard to stop, it was also slow to change its course, so there was generally time for the opposing party to counter an aggressive swing. The long staff, on the other hand, was more agile than it looked, since both hands exerted force upon it and made for good leverage—but it could deliver a punishing blow only against a properly exposed target. The sword was primarily offensive, the staff defensive. Again and again the sword whistled savagely at neck or leg or torso, only to be blocked crosswise by some section of the staff.

At first it had seemed as though the men were out to kill each other; then it was evident that each expected his aggressive moves to be countered and was not trying for bloody victory so much as tactical initiative. Finally it appeared to be a deadlock between two extraordinarily talented warriors.

Then the tempo changed. The blond Sol took the offensive, using the swift staff to force his opponent back and off balance by repeated blows at arms, legs and head. The sworder jumped out of the way often, rather than trying to parry the multiple blows with his single instrument; evidently the weight of his weapon was growing as the furious pace continued. Swords were not weapons of endurance. The staffer had conserved his strength and now had the advantage. Soon the tiring sword arm would slow too much, and leave the body vulnerable.

But not quite yet. Even she, an inexperienced observer, could guess that the large man was tiring too quickly for the amount of muscle he possessed. It was a ruse—and the staffer suspected it too, for the more the motions slowed the more cautious he became. He refused to be lured into any risky commitment.

Then the sworder tried an astonishing stratagem: as the end of the staff drove at his side in a fast horizontal swing, he neither blocked nor retreated. He threw himself to the ground, letting the staff pass over him. Then, rolling on his side, he slashed in a vicious backhanded arc aimed at the ankles. The staffer jumped, surprised by this unconventional and dangerous maneuver, but even as his feet rose over the blade and came down again, it was swishing in a reverse arc.

The staffer was unable to leap again quickly enough, since he was just landing. But he was not so easily trapped. He had kept his

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balance and maintained control over his weapon with marvelous coordination. He jammed the end of the staff into the turf between his feet just as the sword struck. Blood spurted as the blade cut into one calf, but the metal of the staff bore the brunt and saved him from hamstringing or worse. He was wounded and partially crippled, but still able to fight.

The ploy had failed, and it was the end for the sworder. The staff lifted and struck him neatly across the side of the head as he tried to rise, sending him spinning out of the circle. He fell in the gravel, stunned, still gripping his weapon but no longer able to bring it into play. After a moment he realized where he was, gave one groan of dismay, and dropped the sword. He had lost.

Sol, now sole owner of the name, hurled the staff into the ground beside his barrow and stepped over the plastic rim. He gripped the loser's arm and helped him to his feet. "Come—we must eat," he said.

The girl was jolted out of her reverie. "Yes—I will tend your wounds," she said. She led the way back to the cabin, prettier now that she was not trying to impress.

The building was a smooth cylinder thirty feet in diameter and ten high, the outer wall a sheet of hard plastic seemingly wrapped around it with no more original effort than one might have applied to enclose a package. A transparent cone topped it, punctured at the apex to allow the chimney column to emerge. From a distance it was possible to see through the cone to the shiny machinery beneath it: paraphernalia that caught and tamed the light of the sun and provided regular power for the operation of the interior devices.

There were no windows, and the single door faced south: a rotating trio of glassy panels that admitted them singly without allowing any great flow of air. It was cool inside, and bright; the large central compartment was illuminated by the diffused incandescence of floor and ceiling.

The girl hauled down couch-bunks from the curving inner side of the wall and saw them seated upon the nylon upholstery. She dipped around the rack of assorted weapons, clothing and bracelets to run water in the sink set into the central column. In a moment she brought back a basin of warm water and set about sponging off Sol's bleeding leg and dressing it. She went on to care for the bruise on the loser's head, while the two men talked. There was no rancor between them, now that the controversy had been resolved.

"How did you come by that motion with the sword?" Sol inquired, not appearing to notice the ministrations of the girl, though she gave him more than

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perfunctory attention. "It very nearly vanquished me."

"I am unsatisfied with conventional ways," the nameless one replied, as the girl applied astringent medication. "I ask 'Why must this be?' and 'How can it be improved?' and 'Is there *meaning* in this act?' I study the writings of the ancients, and sometimes I come upon the answers, if I cannot work them out for myself."

"I am impressed. I have met no warrior before who could read—and you fought well."

"Not well enough." The tone was flat. "Now I must seek the mountain."

"I am sorry this had to pass," Sol said sincerely.

The nameless one nodded curtly. No more was said for a time. They took turns in the shower compartment, also set in the central column, and dried and changed clothing, indifferent to the presence of the girl.

Bandaged on head and leg, they shared the supper the girl prepared. She had quietly folded down the dining table from the north face and set up stools, while she kept her feet and ferried dishes from range and refrigerator—the last of the fixtures of the column. They did not inquire the source of the spiced white meat or the delicate wine; such things were taken for granted, and even looked down upon, as was the hostel itself.

"What is your objective in life?" the nameless one inquired, as they lingered over the ice cream and the girl washed the dishes.

"I mean to fashion an empire."

"A tribe of your own? I have no doubt you can do it."

"An empire. Many tribes. I am a skilled warrior—better in the circle than any I have seen. Better than the masters of tribes. I will take what my arm brings me—but I have not encountered any I wish to keep, except yourself, and we did not contest for mastery. Had I known how good you were, I would have set different terms."

The other chose to ignore the compliment, but it pleased him. "To build a tribe you need honorable men, proficient in their specialties, who are capable of fighting for you and bringing others into your group. You need young ones, as young as yourself, who will listen to advice and profit from it. To build an empire you need more."

"More? I have not even found young warriors who are worthwhile. Only incompetent amateurs and feeble oldsters."

"I know. I saw few good fighters in the east, and had you found any in the west, you would not have traveled alone. I never lost an engagement before." He was silent a moment, remembering that he was no longer a warrior. To cover up the hurt that grew in him, he spoke again. "Haven't you noticed how old the masters are, and how

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careful? They will not fight at all unless they believe they can win, and they are shrewd at such judgments. All the best warriors are tied to them."

"Yes," Sol agreed, perturbed. "The good ones will not contend for mastership, only for sport. It makes me angry."

"Why should they? Why should an established master risk the work of a lifetime, while you risk only your service? You must have stature. You must have a tribe to match his; only then will any master meet you in the circle."

"How can I form a decent tribe when no decent men will fight?" Sol demanded, growing heated again. "Do your books answer that?"

"I never sought mastery. But if I were building a tribe, or an empire especially, I would search out promising youths and bind them to myself, even though they were not proficient in the circle yet. Then I would take them to some private place and teach them all I knew about combat, and make them practice against each other and me until they were fully competent. Then I would have a respectable tribe, and I would take it out to meet and conquer established tribes."

"What if the other masters still refused to enter the circle?" Sol was quite interested in this turn of the discussion.

"I would find some way to persuade them. Strategy would be required—the terms would have to appear even, or slightly in favor of the other party. I would show them men that they wanted and bargain with them until they were ashamed not to meet me."

"I am not good at bargaining," Sol said.

"You could have some bright tribesman bargain for you, just as you would have others to fight for you. The master doesn't have to do everything himself; he delegates the chores to others, while he governs over all."

Sol was thoughtful. "That never occurred to me. Fighters with the weapons and fighters with the mind." He pondered some more. "How long would it take to train such a tribe, once the men were taken?"

"That depends upon how good you are at training and how good the men are that you have to work with. How well they get along. There are many factors."

"If you were doing it—with the men you have met in your travels."

"A year."

"A year!" Sol was dismayed.

"There is no substitute for careful preparation. A mediocre tribe could perhaps be formed in a few months, but not an organization fit to conquer an empire. That would have to be prepared for every contingency, and that takes time. Time and constant effort and patience."

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"I do not have patience."

The girl finished her work and returned to listen. There were no compartments within the cabin, but she had gone around the column to the shower stall and changed. She now wore an alluring gown that accentuated a fine cleavage and a narrow waist.

Sol remained thoughtful, not seeming to notice the girl though she drew her stool close to him. "Where would there be a suitable place for such training, where others would not spy and interfere?"

"In the badlands."

"The badlands! No one goes there!"

"Precisely. No one would come across you there, or suspect what you were doing. Can you think of a better situation?"

"But it is death!" the girl said, forgetting her place.

"Not necessarily. I have learned that the kill-spirits of the Blast are retreating. The old books call it 'radiation', and it fades in time. The intensity is measured in roentgen, and it is strongest in the center. It should be possible to tell by the plants and animals whether a given area within the markers has become safe. You would have to be very careful about penetrating too far inside, but near the edge—"

"I would not have you go to the mountain," Sol broke in. "I have need of a man like you."

"Nameless and weaponless?" He laughed bitterly. "Go your way, fashion your empire, Sol of all instruments. I was merely conjecturing."

Sol persisted. "Serve me for a year, and I will give you back a portion of your name. It is your mind I require, for it is better than mine."

"My mind!" But the black-haired one was intrigued. He had spoken of the mountain, but he did not really want to die. There were many curious things remaining to be fathomed, many books to be studied, many thoughts to be thought. He had employed his weapon in the circle because it was the established method of manhood, but despite his erstwhile prowess and physique, he was a scholar and experimenter at heart.

Sol was watching him. "I offer —Sos."

"Sos—the weaponless," he said, mulling it over. He did not like the sound of it, but it was a reasonable alternative, close to his original name. "What would you want me to do for the name?"

"The training, the camp, the building of empire you described —I want you to do it for me. To be my fighter of the mind. My advisor."

"Sos the advisor." The notion grew on him, and the name sounded better. "The men would not listen to me. I would need complete authority, or it would come to nothing. If they argued, and I with no weapon—"

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"Who argues, dies," Sol said with absolute conviction. "By my hand."

"For one year—and I keep the name?"

"Yes."

He thought of the challenge of it, the chance to test his theories in action. "I accept the offer."

They reached across the table and shook hands gravely. "Tomorrow we begin the empire," Sol said.

The girl looked up. "I would come with you," she said.

Sol smiled, not looking at her. "She wants your bracelet again, Sos."

"No." She was troubled, seeing her hints come to nothing. "Not without—"

"Girl," Sol reminded her sternly, "I want no woman. This man fought well; he is stronger than many who still bear weapons, and a scholar, which I am not. You would not be shamed to wear his emblem."

She thrust out her lip. "I would come—myself."

Sol shrugged. "As you wish. You will cook and wash for us, until you take a man. We will not be staying in a cabin always, though." He paused, thinking of something. "Sos, my advisor—is this wise?"

Sos studied the woman, now petulant but still lovely. He tried not to be moved by her cleavage. "I do not think so. She is excellently proportioned and a talented cook, but headstrong. She would be a disruptive influence, unattached."

She glared at him. "I want a name, as you do!" she snapped. "An *honorable* name."

Sol crashed his fist against the table so hard the vinyl surface flexed. "You anger me, girl. Do you claim the name I give lacks honor?"

She retreated hastily. "No, man of all weapons. But you do not offer it to *me*."

"Take it, then!" He flung his golden bracelet at her. "But I need no woman."

Baffled but exultant, she picked up the heavy piece and squeezed it together to fit her wrist. Sos looked on, ill at ease.

II

Two weeks later they struck the red markers of warning in the open country to the north. The foliage did not change, but they knew there would be few animals and no men beyond the sinister line of demarcation. Even those who chose to die preferred the mountain, for that was a quick, honorable leave-taking, while the badlands were reputed to bring torture and horror.

Sol stopped, discommoded by the markers. "If it is safe, why are they still here?" he demanded. Sola nodded heartily, unashamed of her fear.

"Because the crazies haven't up-

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dated their maps in fifty years," Sos replied. "This area is overdue for resurvey, and one of these months they'll get around to it and set the markers back ten or fifteen miles. I told you radiation isn't a permanent thing; it fades away slowly."

Sol was not convinced, now that commitment was imminent. "You say this 'radiation' is something you can't see or hear or smell or feel, but it kills you just the same? I know you studied the books, but that just doesn't make sense to me."

"Maybe the books are lying," Sola put in, sitting down. The days of forced marching had tightened the muscles of her legs but diminished none of her femaleness. She was a good-looking woman—and knew it.

"I've had doubts myself," Sos admitted. "There are many things I don't understand, and many books I've never had the chance to read. One text says that half the men will die when exposed to 450 roentgen, while mosquitoes can survive over a hundred thousand —but I don't know how much radiation one roentgen is, or how to spot it. The crazies have boxes that click when they get near radiation; that's how they know."

"One click to a roentgen, maybe," she said, simplifying it. "If the books are honest."

"I think they are. A lot of it makes no sense at all, at first, but I've never caught them in an error. This radiation—as nearly as I can make it out, it was put here by the Blast, and it's like fungus-light. You can't see the fungus glow in the daytime, but you know that the light is still there. You can box it in with your hands to shut out the sun, and the green—"

"Fungus-light," Sol said solemnly.

"Just imagine that it is poisonous, that it will make you sick if it touches your skin. At night you can avoid it, but in the day you're in trouble. You can't see it or feel it . . . that's what radiation is, except that it fills up everything where it exists. The ground, the trees, the air."

"Then how do we know it's gone?" Sola demanded. There was an edge to her voice which Sos put down to fear and fatigue. She had gradually lost the air of sweet naivete she had affected the first evening at the hostel.

"Because it affects the plants and animals too. They get sick at the fringe, and everything is dead at the center. As long as they *look* all right, we should be safe. There should be several miles clear of it beyond the markers now. It's a risk —but a worthwhile one, in the circumstances."

"And no cabins?" she asked a little forlornly.

"I doubt it. The crazies don't like radiation any better than we do, so they'd have no reason to

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build here until they survey it. We'll have to forage and sleep out."

"We'd better pick up bows and tents, then," Sol said.

They left Sola to watch Sol's barrow while they backtracked three miles to the last hostel. They entered its heat-pump interior comfort and selected two sturdy bows and arrow packs from its armory. They donned camping gear: light plastic leggings, helmets and traveling packs. Each man placed three swift shots in the standing target near the battle circle, feeling out the instruments, then shouldered them and returned to the trail.

Sola was asleep against a tree, her hiking skirt hitched up indecorously. Sos looked away; the sight of her body stirred him in spite of what he knew of her bad temper. He had always taken his women as they came and formed no lasting relationships, but this continued proximity to another man's wife acted upon him in a way he did not like.

Sol kicked her. "Is this the way you guard my weapons, woman?"

She jumped up, embarrassed and angry. "It's the same way you take care of *mine*!" she retorted. Then, afraid, she bit her lip.

Sol ignored her. "Let's find a place quickly," he said, glancing at the nearest marker. Sos gave the woman the leggings and helmet he had brought for her; Sol hadn't thought of it. He wondered why they stayed together, when they evidently didn't get along. Could sex mean so much?

He forced his eyes away from her again, afraid to answer that.

They stepped across the line and moved slowly into the badlands. Sos repressed the nervous twinge he felt at the action, knowing that if *he* felt it, the others were struck much more forcefully. He was supposed to know; he had to prove he was right. Three lives depended on his alertness now.

Even so, the personal problem preoccupied him. Sol had said at the outset that he needed no woman. This had sounded like a courteous deferral to the other man, since no second woman was available. But then he had given the girl his bracelet, signifying their marriage. They had slept together two weeks, yet she now dared to express open dissatisfaction. Sos did not like the look of it.

The leaves and underbrush of the forest and field seemed healthy, but the rustle of wildlife faded out as they penetrated deeper. There were birds and numerous flying insects, but no deer, groundhogs or bears. Sos watched for the traces and found none. They would have trouble locating game for their arrows if this were typical. At least the presence of the birds seemed to indicate that the area was safe, so far; he did not know their tolerance but as-

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sumed that one warm-blooded creature should be able to stand about as much as another. The birds would have to stay put while nesting and would certainly have developed sickness if they were going to.

The trees gave way to a wide open field bending down into a meandering stream. They stopped to drink. Sos hesitated until he saw small fish in the water, quick to flee his descending hand. What fish could thrive in, man could drink.

Two birds shot across the field in a silent dance. Up and around they spun, the large one following the small. It was a hawk running down some kind of sparrow, and the chase was near its end. Obviously exhausted, the small bird barely avoided the outstretched claws and powerful beak. The men watched indifferently.

Suddenly the sparrow fluttered directly at them, as though imploring their protection. The hawk hovered uncertainly, then winged after it.

"Stop it!" Sola cried, moved by the fancied appeal. Surprised, Sol looked at her, then held up his hand to block off the hawk.

The predator sheered off, while the sparrow flopped to the ground almost at Sola's feet and hunched there, unable or afraid to rise again. Sos suspected that it was as much afraid of the people as the enemy. The hawk circled at a distance, then made up its mind. It was hungry.

Sol reached inside his barrow so quickly that his hand was a blur and whipped out a singlestick. As the hawk swooped low, intent on the grounded bird, he swung. Sos knew that the predator was out of reach and far too swift for such antics . . . but it gave a single sharp cry as the stick knocked it out of the air and hurled its broken body into the river.

Sos stared. It had been the quickest, most accurate motion with a weapon he had ever seen, yet the man had done it casually, in a fit of pique at a creature who disobeyed his warning. He had thought that it was merely the luck of battle that had given Sol the victory in the circle, though the man was certainly able. Now he understood that there had been no luck about it; Sol had simply toyed with him until wounded, then finished it off quickly.

The little bird hopped on the ground, fluttering ineffectively. Sola retreated from it, perversely alarmed now that the action was over. Sos donned a gauntlet from his camping pack and reached down carefully to pinion the flapping wings and pick up the frightened creature.

It was not a sparrow after all, but some similar bird. There were flecks of yellow and orange in the brown wings, and the bill was large and blunt. "Must be a mu-

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tant," he said. "I've never spotted one like this before."

Sol shrugged, not interested, and fished the body of the hawk out of the water. It would do for meat if they found nothing better.

Sos opened his glove and freed the bird. It lay in his palm, looking at him but too terrified to move. "Take off, stupid," he said, shaking it gently.

Its little claws found his thumb and clenched upon it.

He reached slowly with his bare hand, satisfied that the creature was not vicious, and pulled at a wing to see if it were broken. The feathers spread apart evenly. He checked the other wing, keeping his touch light so that the bird could slip free harmlessly if it decided to fly. Neither was damaged, as far as he could tell. "Take off," he urged it again, flipping his hand in the air.

The bird hung tight, only spreading its wings momentarily to preserve its equilibrium.

"As you wish," he said. He brought the glove to the strap over his shoulder and jostled until the bird transferred its perch to the nylon. "Stupid," he repeated, not unkindly.

They resumed the march. Fields and brush alternated with islands of trees, and as dusk came, the shrilling of insects became amplified, always loudest just a little distance away, but never from the ground. They crossed the spoor of no larger animals. At length they camped by the bank of the stream and netted several small fish. Sos struck a fire while Sola cleaned and prepared the flesh. The woman appeared to have had a good education; she could do things.

As the night advanced, they opened the packs and set up the two nylon-mesh tents. Sos dug a pit downstream for offal while Sol did isometric exercises. Sola gathered a stock of dry branches for the fire, whose blaze seemed to give her comfort.

The bird remained with Sos all this time, moving from his shoulder when he had to get at the pack but never straying far. It did not eat. "You can't live long that way, stupid," he reminded it affectionately. And that became its name: Stupid.

A white shape rose before him as he returned from the pit, spookily silent. One of the great hawk moths, he decided, and stepped toward it.

Stupid squawked unmelodiously and flew at it. There was a brief struggle in the air—the insect seemed as large as the bird, in this light—then the white collapsed and disappeared into the outsize avian mouth. Sos understood: his bird was a night feeder, at a disadvantage in full daylight. Probably the hawk had surprised it sleeping and run it down while in a befuddled state. All Stupid wanted was a safe place to perch and snooze by day.

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In the morning they struck camp and advanced further into the forbidden area. Still there was no animal life on the ground, mammal, reptile or amphibian; nor, he realized, was there insect life there. Butterflies, bees, flies, winged beetles and the large nocturnal moths abounded—but the ground itself was clean. It was ordinarily the richest of nature's spawning habitats.

Radiation in the earth, lingering longer here than elsewhere? But most insects had a larval stage in ground or water . . . and the plants were unaffected. He squatted to dig into the humus with a stick.

They were there: grubs and earthworms and burrowing beetles, seemingly normal. Life existed *under* the ground and *above* it—but what had happened to the surface denizens?

"Looking for a friend?" Sola inquired acidly. He did not attempt to explain what was bothering him, since he was not sure himself.

In the afternoon they found it: a beautiful open valley, flat where a river had once flooded, and with a line of trees where that river remained. Upstream the valley narrowed into a cleft and waterfall, easy to guard, while downstream the river spread into a reedy swamp that neither foot nor boat could traverse handily. There were green passes through the rounded mountains on either side.

"A hundred men and their families could camp here!" Sol exclaimed. "Two, three hundred!" He had brightened considerably since discovering that the nemesis of the badlands had no teeth.

"It looks good," Sos admitted. "Provided there is no danger we don't know about." And was there?

"No game, Sol said seriously. "But there are fish and birds, and we can send out foraging parties. I have seen fruit trees, too." He had really taken this project to heart, Sos saw, and was alert for everything affecting its success. Yet there was danger in becoming prematurely positive, too.

"Fish and fruit!" Sola muttered, making a face, but she seemed glad that at least they would not be going deeper into the danger zone. Sos was glad too; he felt the aura of the badlands and knew that its mystery was more than what could be measured in roentgens.

Stupid sqawked again as the great white shapes of night appeared. There were several in sight on the plain, their color making them appear much larger than they were, and the bird flapped happily after them. Apparently the tremendous moths were its only diet—*his* diet, Sos thought, assigning a suitable sex—and he consumed them indefatigably. Did Stupid store them up in his crop for lean nights?

"Awful sound," Sola remarked,

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and he realized that she meant Stupid's harsh cry. Sos found no feasible retort. This woman both fascinated and infuriated him—but her opinion hardly made a difference to the bird.

One of the moths fluttered silently under Sol's nose on its way to their fire. Sol made that lightning motion and caught it in his hand, curious about it. Then he cursed and brushed it away as it stung him, and Stupid fetched it in.

"It *stung* you?" Sos inquired. "Let me see that hand." He drew Sol to the fire and studied the puncture.

There was a single red-rimmed spot in the flesh at the base of the thumb, with no other inflammation or swelling. "Probably nothing, just a defensive bite," Sos said. "I'm no doctor. But I don't like it. If I were you, I'd cut it open and suck out any venom there may be, just to be sure. I never heard of a moth with a sting."

"Injure my own right hand?" Sol laughed. "Worry over something else, advisor."

"You won't be fighting for at least a week—time enough for it to heal."

"No." And that was that.

They slept as they had before: the tents pitched side by side, the couple in one, Sos in the other. He lay tense and sleepless, not certain what it was that disturbed him so much. When he finally slept, it was to dream of mighty wings and enormous breasts, both images dead white, and he didn't know which frightened him more.

Sol did not awaken in the morning. He lay in his tent, fully clothed and burning with fever. His eyes were half open but staring, the lids fluttering sporadically. His respiration was fast and shallow, as though his chest were constricted—and it was, for the large muscles of limbs and torso were rigid.

"The kill-spirit has taken him!" Sola cried. "The—radiation."

Sos was checking over the laboring body, impressed by the solidity and power of it even in illness. He had thought the man was coordinated rather than strong, but another reassessment was in order. Sol usually moved so smoothly that the muscle was hardly apparent. But now he was in grave trouble, as some devastating toxin ravaged his system.

"No," he told her. "Radiation would have affected us as well."

"What *is* it then?" she demanded nervously.

"A harmless sting." But the irony was wasted on her. He had dreamed of death-white wings; she hadn't. "Grab his feet. I'm going to try dunking him in the water, to cool him off." He wished he had seen more medical tests, though he hardly understood what had been available. The body of a man generally knew what it was doing, and

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perhaps there was a reason for the fever—to burn off the toxin?—but he was afraid to let it rampage amid the tissues of muscle and brain any longer.

Sola obeyed, and together they dragged the sturdy body to the river's edge. "Get his clothing off," Sos snapped. "He may swing into chills after this, and we'll have to keep him from strangling in wet garments."

She hesitated. "I never—"

"Hurry!" he shouted, startling her into action. "Your husband's life is at stake."

Sos ripped off the tough nylon jacket while Sola loosened the waist cord and worked the pantaloons down. "Oh!" she cried.

He was about to rebuke her again. She had no cause to be sensitive about male exposure at this stage. Then he saw what she was looking at. Suddenly he understood what had been wrong between them.

Injury, birth defect or mutation—he could not be certain. Sol would never be a father. No wonder he sought success in his own lifetime. There would be no sons to follow him.

"He is still a man," Sos said. "Many women will envy his bracelet." But he was embarrassed to remember how similar Sol's own defense of him had been, after their encounter in the circle. "Tell no one."

"N-no," she said, shuddering. "No one." Two tears flowed down her cheeks. "Never." He knew she was thinking of the fine children she might have had by this expert warrior, matchless in every respect except one.

They wrestled the body into the water, and Sos held the head up. He had hoped the cold shock would have a beneficial effect, but there was no change in the patient. Sol would live or die as the situation determined; there was nothing more they could do except watch.

After a few minutes he rolled Sol back onto the bank. Stupid perched on his head, upset by the commotion. The bird did not like deep water.

Sos took stock. "We'll have to stay here until his condition changes," he said, refraining from discussion of the likely direction of the change. "He has a powerful constitution. Possibly the crisis is over already. We don't dare get stung ourselves by those moths, though—chances are we'd die before the night was out. Best to sleep during the day and stand guard at night. Maybe we can all get into one tent and let Stupid fly around outside. And gloves—keep them on all night."

"Yes," she said, no longer aggressive or snide.

He knew it was going to be a rough period. They would be terrified prisoners at night, confined in far too small a space and unable to step out for any reason, natural or

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temperamental, watching for white-winged terror while trying to care for a man who could die at any time.

And it did not help to remember that Sol, though he might regain complete health, could never bed his woman—the provocatively proportioned female Sos would now be jammed against, all night long.

III

"Look!" Sola cried, pointing to the hillside across the valley.

It was noon, and Sol was no better. They had tried to feed him, but his throat would not swallow, and they were afraid water would choke him. Sos kept him in the tent and fenced out the sun and the boldly prying flies, furious in his uncertainty and inability to do anything more positive. He ignored the girl's silly distraction.

But their problems had only begun. "Sos, look!" she repeated, coming to grab at his arm.

"Get away from me," he growled, but he did look.

A gray carpet was spreading over the hill and sliding grandly toward the plain, as though some cosmic jug were spilling thick oil upon the landscape.

"What *is* it?" she asked him with the emphasis that was becoming annoying. He reminded himself that at least she no longer disdained his opinions. "The roentgens?"

He cupped his eyes in a vain attempt to make out some detail. The stuff was not oil, obviously. "I'm afraid it's what abolished the game in this region." His nameless fears were being amply realized.

He went to Sol's barrow and drew out the two slim singlesticks: light polished rods two feet long and an inch and a half in diameter, rounded at the ends. They were made of simulated wood and were quite hard. "Take these, Sola. We're going to have to fight it off somehow, and these should come naturally to you."

She accepted the sticks, her eyes fixed on the approaching tide, though she showed no confidence in them as a weapon.

Sos brought out the club: a weapon no longer than the singlestick and fashioned of similar material, but far more hefty. From a comfortable, ribbed handle it bulged into a smooth teardrop eight inches in diameter at the thickest point, with the weight concentrated near the end, and it weighed six pounds. It took a powerful man to handle such an instrument with facility, and when it struck with full effect, the impact was as damaging as that of a sledge hammer. The club was clumsy, compared to other weapons—but one solid blow usually sufficed to end the contest, and many men feared it.

He felt uneasy, taking up this thing, both because it was not his

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weapon and because he was bound by his battle oath never to use it in the circle. But he repressed these sentiments as foolish; he was not taking the club as a weapon, and had no intention of entering the circle with it. He required an effective mode of defense against a strange menace, and in that sense the club was no more a weapon of honor than the bow. It was the best thing at hand to beat back whatever approached.

"When it gets here, strike at the edge," he told her.

"Sos! It—it's *alive*!"

"That's what I was afraid of. Small animals, millions of them, ravaging the ground and consuming every flesh-bearing creature upon it. Like army ants."

"Ants!" she said, looking at the sticks in her hands.

"*Like* them—only worse."

The living tide had reached the plateau and was coming across in a monstrous ripple. Already some front runners were near enough to make out separately. This close, the liquid effect was gone.

"Mice!" she exclaimed, relieved. "Tiny mice!"

"Maybe—because they're among the smallest mammals, and they reproduce fastest. Mammals are the most savage and versatile vertebrates on Earth. My guess is that these are carnivorous, whatever they are."

"*Mice*? But how—?"

"Radiation. It affects the babies in some way, makes them mutants. Almost always harmful—but the few good ones survive and take over, stronger than before. The books claim that's how man himself evolved."

"But *mice*!"

The outriders were at their feet. Sos felt inane, holding the club aloft against such enemies. "Shrews, I'm afraid. Insectivores, originally. If the radiation killed off everything but the insects, these would be the first to move in again."

He squatted and swept one up in his glove and held it for her to see. She didn't look, but Stupid did, and he wasn't happy. "The smallest but most vicious mammal of all. Two inches long, sharp teeth, deadly nerve poison—though there isn't enough of it in a shrew to kill a human being. This creature will attack anything that lives, and it eats twice its own weight in meat in a day."

Sola was dancing about, trying to avoid the charging midgets. She did not seem to be foolishly afraid of them, as some women were, but certainly did not want them on her body or under her feet. "Look!" she screamed. "They're—"

He had already seen it. A dozen of the tiny animals were scrambling into the tent, climbing over Sol, sniffing out the best places to bite.

Sos lunged at them, smacking the ground with the club, while

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Sola struck with the sticks, but the horde had arrived in a mass. For every one they killed with clumsy blows, a score were charging past, miniature teeth searching. The little bodies of the casualties were quickly torn apart by others and consumed.

The troops were small, but this was full-scale war.

"We can't fight them all!" Sos gasped. "Into the water!"

They opened the tent and hauled Sol out by his arms and splashed into the river. Sos waded to chest height, shaking off the determined tiny monsters. He discovered that his arms were bleeding from multiple scratches inflicted by the shrews. He hoped he was wrong about their poison; he and Sola must already have sustained enough bites to knock them out, if the effect were cumulative.

The little bundles of viciousness balked at the water line, and for a moment he thought the maneuver had been successful. Then the hardier individuals plunged in and began swimming across, beady eyes fixed upon the target. More splashed in after them, until the surface of the river was covered with furry bodies.

"We've got to get away from them!" Sos shouted. "Swim for it!" Stupid had already flown to the opposite shore and was perched anxiously upon a bush. No mystery any more why the surface of the land was clean!

"But the tents, the supplies—"

She was right. They had to have a tent, or nightfall would leave them exposed to the moths. Sheer numbers would protect the army of shrews, but all larger animals were vulnerable. "I'll go back for them!" he said, hooking his forearm under Sol's chin and striking out with sidestrokes for the far bank. He had thrown aside the club somewhere; it was useless, anyway.

They outdistanced the animals and stumbled onto land. Sola bent down to give the patient what attention she could, while Sos plunged back into the water for one of the most unpleasant tasks of his life. He swam across, stroking more strongly now that he had no burden—but at the far side he had to cut through the living layer of carnivores. His face was at their level.

He gulped a breath and ducked under, swimming as far as he could before coming up for air. Then he braced his feet against the bottom and launched himself upward at an angle. He broke water, spraying shrews in every direction, took his breath through clenched teeth, and dived again.

At the shore he lurched out, stepping on squealing, struggling fur, swept up the nearest pack and ripped his standing tent loose from its moorings. If only they had folded them and put the things away—but Sol's illness had preempted everything.

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The creatures were everywhere, wriggling over and inside the pack and through the folds of the bunched tent. Their pointed hairy snouts nuzzled at his face, the needle teeth seeking purchase, as he clasped the baggage to his chest. He shook the armful, not daring to stop running, but they clung tight, mocking him, and leaped for his eyes the moment he stopped.

He dived clumsily into the water, feeling the living layer he landed upon, and kicked violently with his feet. He could not submerge this time; the pack had been constructed to float, the tent had trapped a volume of air, and both arms were encumbered. Still the tiny devils danced upon the burden and clawed over his lips and nose, finding ready anchorage there. He screwed his eyes shut and continued kicking, hoping he was going in the right direction, while things scrambled through his hair and bit at his ears and tried to crawl inside ear holes and nostrils. He heard Stupid's harsh cry and knew that the bird had flown to meet him and had been routed; at least he could stay clear by flying. Sos kept his teeth clenched, sucking air through them to prevent the attackers from entering there too.

"Sos! Here!"

Sola was calling him. Blindly grateful, he drove for the sound—and then he was out of the lumpy soup, swimming in clear water. He had outdistanced them again!

The water had infiltrated the pack and tent, nullifying their buoyancy, and he was able to duck his head and open his eyes underwater, while the shrews got picked off by the current.

Her legs were before him, leading the way. He had never seen anything quite so lovely.

Soon he was sprawled upon the bank, and she was brushing things from him and stamping them into the muck. "Come *on*!" she cried into his ear. "They're halfway across!"

No rest, no rest, though he was abominably tired. He strove to his feet and shook himself like a great hairy dog. The scratches on his face stung, and the muscles of his arms refused to loosen. Somehow he found Sol's body and picked it up and slung it over his shoulders in the fireman's carry and lumbered up the steep hillside. He was panting, although he was hardly moving.

"Come *on*!" her voice was screaming thinly, over and over. "Come on! Comeoncomeon!" He saw her ahead of him, wearing the pack, the material of the tent jammed crudely inside and dripping onto her wet bottom. Fabulous bottom, he thought, and tried to fix his attention on that instead of the merciless weight upon his shoulders. It didn't work.

The retreat went on forever, a nightmare of exertion and fatigue. His legs pumped meaninglessly, numb stalks, stabbing into the

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ground but never conquering it. He fell, only to be roused by her pitiless screaming, and stumbled another futile thousand miles and fell again. And again. Furry snouts with glistening, blood-tinted teeth sped toward his eyes, his nostrils, his tongue; warm bodies crunched and squealed in agony under his colossal feet, so many bags of blood and cartilage; and stupendous, bone-white wings swirled like snowflakes wherever he looked.

And it was dark, and he was shivering on the soaking ground, a corpse beside him. He rolled over, wondering why death had not yet come—and there was a flutter of wings, brown wings flecked with yellow, and Stupid was sitting on his head.

"Bless you!" he whispered, knowing the moths would not get close tonight, and sank out of sight.

IV

Flickering light against his eyelids woke him again. Sol was lying next to him, living after all, and in the glow from an outside fire he could see Sola sitting up, nude.

Then he realized that they were all naked. Sol had had minimal clothing since the dunking in the river, and the others—

"On a line by the fire," she said. "You were shaking so badly I had to get that sopping stuff off you. Mine was wet, too."

"You were right," he said. He had been quick enough to subordinate Sol's modesty to need; the same applied to himself. He wondered how she had gotten the clothing off him; he was certainly too heavy for her to lift. There must have been a real chore, there.

"I think they're dry now," she said. "But the moths—"

He saw the material of the tent enclosing them. She had situated the fire so that it radiated through the light netting in front, heating the interior without flooding it with smoke. She had placed the two men prone, heads near the heat, while she kneeled between their feet at the far end, leaning over so that the sloping nylon did not touch her back. It could hardly be a comfortable position, though from this angle it showed her unsupported bosom off to advantage.

He rebuked himself for his preoccupation with her body at such an inappropriate time. Yet it always came to this; he could not look at her without turning physical, any time. This was the other fear of his erstwhile dream: that he would covet his companion's wife and be led into dishonor. Sola had acted with eminent common sense and dispatch, even courage, and it was an insult to put a sexual meaning on it. She was naked and desirable—and wore another man's bracelet.

"Maybe I can fetch the clothing," he said.

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"No. The moths are everywhere —much thicker than before. Stupid is gorging himself—but we can't put a hand outside."

"I'll have to stoke up the fire pretty soon." It was cold outside, and his feet could feel it despite the greenhouse effect of the closed tent. He could see her shivering, since she was more distant from the blaze.

"We can lie together," she said. "It will keep us all warm, if you can stand my weight."

Again, it made sense. The tent was not wide enough for three, but if she lay astride the two men there would be both room and a prism of warmth. Both were in urgent demand. She was being supremely businesslike about it; could he be less?

Her thigh rubbed against his foot, a silken contact as she adjusted her weight. Intimate messages ran up his leg.

"I think his fever is broken," she said. "If we can keep him warm tonight, he may improve tomorrow."

"Maybe the shrew venom counteracted the moth poison," he said, glad to change the subject. "Where are we now? I don't remember getting here."

"Over the pass, the other side of the river. I don't think they can catch up to us here. Not tonight. Do they travel at night?"

"I wouldn't think so. Not if they travel by day. They must sleep sometime." He paused. "Straight in from the river? That means we're that much farther into the badlands."

"But you said the radiation is gone."

"I said it is *retreating*. I don't know how far or fast. We could be in it now."

"I don't feel anything," she said nervously.

"You can't feel it." But it was a pointless discussion. They had no way to escape it, if they were in the fringe zone. "If the plants haven't changed, it must be all right. It kills everything." But insects were a hundred times as tolerant as man, and there were more moths. . . .

The conversation lapsed. He knew what the problem was: though they had agreed on the necessity to conserve heat, and knew what was called for, it was awkward initiating the action. He could not boldly invite her to lay her generous breasts against his naked body, and she could not stretch out upon him without some specific pretext. What was intellectually sensible remained socially awkward—the more so because the prospect of such contact excited him, practical as its purpose might be, and he was sure it would show. Perhaps it interested her as well, since they both knew that Sol would never embrace her.

"That was the bravest thing I ever saw," she said. "Going back for the tent like that."

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"It had to be done. I don't remember much about it, except your screaming at me 'Come on! Come on!' " He realized that sounded ungracious. "You were right, of course. You kept me going. I didn't know what I was doing."

"I only yelled once."

So it had been in his head, along with the other phantasms. "But you guided me away from the shrews."

"I was afraid of them. You picked up Sol and ran after me. On and on. I don't know how you did it. I thought you were done when you tripped, but you kept getting up again."

"The books call it hysterical strength."

"Yes, you are very strong," she agreed, not understanding him. "Maybe not so quick with your hands as he is, but much stronger."

"Still, you carried the gear," he reminded her. "And you set all this up." He looked about the tent, knowing that she must have carved pegs to replace the ones lost when he uprooted the works amid the shrew invasion and that she must have hammered them into the ground with a stone. The tent was not mounted evenly, and she had forgotten to dig a drainage trench around it, but the props were firm and the flaps tight. It was proof against the moths, with luck and vigilance, which was what counted, and could probably withstand rough use. The placement of the fire was a stroke of genius. "An excellent job. You have a lot more ability than I gave you credit for."

"Thank you," she said, looking down. "It had to be done."

There was silence again. The fire was sinking, and all he could see were the highlights of her face and the rounded upper contours of her breasts, all lovely. It was time to lie down together, but still they held back.

"Sometimes we camped out, when I was with my family," she said. "That's how I knew to pitch the tent on a rise, in case it rained." So she *had* been aware of the necessity for drainage. "We used to sing songs around the fire, my brothers and I, trying to see how late we could stay awake."

"So did we," he said reminiscently. "But I can only remember one song now."

"Sing it for me."

"I can't," he protested, embarrassed. "My notes are all off key."

"So are mine. What's the song?"

"Greensleeves."

"I don't know it. Sing it."

"I can't sing lying on my side."

"Sit up, then. There's room."

He floundered into an upright posture, facing her across the length of the tent. Sol's still form stretched out diagonally between them. He was glad, now that it was dark.

"It isn't suitable," he said.

"A folk song?" Her tone made the notion ridiculous.

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He took a breath and tried, having run out of objections:

Alas, my love, you do me wrong
To cast me out discourteously
When I have loved you so long
Delighting in your company

"Why that's beautiful!" she exclaimed. "A love ballad."

"I don't remember the other verses. Just the refrain."

"Go ahead."

Greensleeves was my delight
Greensleeves was all my joy
Greensleeves was my heart of gold
And who but my lady
Greensleeves?

"Does a man really love a woman like that?" she inquired meditatively. "I mean, just thinking about her and being delighted in her company?"

"Sometimes. It depends on the man. And the woman, I suppose."

"It must be nice," she said sadly. "Nobody ever loaned me his bracelet, just for company. That kind, I mean. Except—"

He saw her eyes move to Sol, or thought he did, and spoke to cut off the awkward thought. "What do you look for in a man?"

"Leadership, mostly. My father was second-ranked in the tribe, but never the master, and it wasn't much of a tribe. He finally got wounded too bad and retired to the crazies, and I was so ashamed I struck out on my own. I want a name everyone will admire. More than anything else, I want that."

"You may have it already. He is a remarkable warrior, and he wants an empire." He refrained again from reminding her what that name could not provide.

"Yes." She did not sound happy.

"What is your song?"

"Red River Valley. I think there *was* such a place, before the Blast."

"There was. In Texas, I believe."

Without further urging she began singing. Her voice, untrained, was better than his.

Come and sit by my side if you love me
Do not hasten to bid me adieu
But remember the Red River Valley
And the girl who has loved you so true.

"How did you get to be a scholar?" she asked him then, as though retreating from the intimacy of the song.

"The crazies run a school in the East," he explained. "I was always curious about things. I kept asking questions nobody could answer, like what was the cause of the Blast, and finally my folks turned me over to the crazies for service, provided they educated me. So I carried their slops and cleaned their equipment, and they taught me to read and figure."

"It must have been awful."

"It was wonderful. I had a strong back, so the work didn't bother me, and when they saw that I really wanted to learn, they put

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me in school full time. The old books—they contained incredible things. There was a whole history of the world, before the Blast, going back thousands of years. There used to be nations, and empires, much bigger than any of the tribes today, and so many people there wasn't enough food to feed them. They were even building ships to go into space, to the other planets we see in the sky—"

"Oh," she said, uninterested. "Mythology."

He gave it up as a bad job. Almost nobody, apart from the crazies, cared about the old times. To the average person the world began with the Blast, and that was as far as curiosity extended. Two groups existed upon the globe: the warriors and the crazies, and nothing else that mattered. The former were nomad families and tribes, traveling from cabin to cabin and camp to camp, achieving individual status and rearing children. The latter were thinkers and builders who were said to draw their numbers from retired or unsuccessful warriors; they employed great pre-Blast machines to assemble cabins and clear paths through the forests. They distributed the weapons and clothing and other supplies, but did not produce them, they claimed; no one knew where such things came from, or worried particularly about it. People cared only for the immediacies; so long as the system functioned, no one worried about it. Those who involved themselves with studies of the past and similarly useless pursuits were crazy. Hence the "crazies"—men and women very like the nomads, if the truth were known, and not at all demented.

Sos had come to respect them sincerely. The past lay with the crazies—and, he suspected, the future too. They alone led a productive existence. The present situation was bound to be temporary. Civilization always displaced anarchy, in time, as the histories had clearly shown.

"Why aren't you a—" She cut herself off. The last light from the fire had gone, and only her voice betrayed her location. He realized that his sitting posture cut off even more of the heat from her, though she had not complained.

"A crazy?" He had often wondered about that matter himself. Yet the nomad life had its rough appeal and tender moments. It was good to train the body, too, and to trust in warrior honor. The books contained marvels—but so did the present world. He wanted both. "I suppose I find it natural to fight with a man when I choose, and to love a woman the same way. To do what I want, when I want, and to be beholden to no one else, only to the power of my right arm in the circle."

But that wasn't true any more. He had been deprived of his rights in the circle, and the woman he

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would have clasped had given herself to another man. His own foolishness had led him to frustration.

"We'd better sleep," he said gruffly, lying down again.

She waited for him to get settled, then crawled upon him without a word. She placed herself face down upon the backs of the two men. Sos felt her head nestling in its soft hair upon his right shoulder, ticklish tresses brushing down between his arm and body suggestively, though he knew this aspect of her repose was accidental. Women were not always aware of the sexual properties of long hair. Her warm left breast flattened against his back, and her smooth fleshy thigh fell inside his knee. Her belly expanded as she breathed, pressing rhythmically against his buttock.

In the dark he clenched his fist.

V

"Next time, advisor, if you tell me to smash my own hand to pulp with the club, I will do it gladly," Sol said, acknowledging his error about the moth sting. His features were pale, but he had recovered. They had dressed him in new trunks from the pack before he woke, and let him guess what he might about the loss of the other clothing. He did not inquire.

Sola had found small green fruit on a wild apple tree, and they made a distasteful meal of it. Sos explained about their flight from the shrews, skimping on certain details, while the woman nodded.

"So we can't use the valley," Sol said, dismissing the rest of it.

"On the contrary—it is a fine training ground."

Sola squinted. "With the *shrews*?"

Sos turned seriously to Sol. "Give me twenty good men and a month to work, and I'll have it secure the year around."

Sol shrugged. "All right."

"How are we going to get out of here?" Sola wanted to know.

"The same way we came in. Those shrews are defeated by their appetites. They can't wait around very long in any one place, and there was hardly anything for them to eat in that valley. They must have moved on to fresher pastures already, and soon they'll die off. Their life cycle is short. They probably only swarm every third or fourth generation, though that would still be several times a year."

"Where did they come from?" Sol asked.

"Must have been mutated from the fringe radiation." He began his description of evolution, but Sol yawned. "At any rate they must have been changed in some way to give them the competitive edge, here, and now they are wiping out almost every form of ground life. They'll have to range farther and farther, or starve."

"And you can keep them clear of the valley?"

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"Yes, after proper preparations."

"Let's move."

The valley was empty again. No trace of the tiny mammals remained, except for the matted grass flattened by their myriad feet and brown earth showing where they had burrowed for fat grubs. They had evidently climbed every stalk in search of food, bearing it down by the weight of numbers and chewing experimentally. Strange scourge!

Sol eyed the waste. "Twenty men?"

"And a month."

They went on.

Sol seemed to gain strength as he marched, little worse for wear. The other two exchanged glances occasionally and shook their heads. The man might make a good show of it, but he had been very near death and had to be feeling the residual effects now.

They set a swift pace, anxious to get out of the badlands before dusk. Travel was much more rapid now that they knew where they were going, and by nightfall they were near the markers. Stupid remained with Sos, perched on his shoulder, and this protection encouraged them to keep moving through the dusk toward the hostel.

There they collapsed for a night and a day, basking in its controlled temperature, safe sleeping and ample food. Sola slept beside her man, no longer complaining. It was as though their experience of the last night in the badlands meant nothing to her—until Sos heard her humming "Greensleeves." Then he knew that no victor stood in this circle yet. She had to make her choice between opposing desires, and when she came to her decision she would either give back Sol's bracelet—or keep it.

Stupid seemed to have no problem adapting to a diet of lesser insects. The white moths were a phenomenon of the badlands only, but the bird elected to stick with the empire even at the sacrifice of his favorite victual.

They traveled again. Two days out they met a single warrior carrying a staff. He was young and fair, like Sol, and seemed to smile perpetually. "I am Sav the Staffer, he said, "in quest of adventure. Who will meet me in the circle?"

"I fight for service," Sol replied. "I am forming a tribe."

"Oh? What is your weapon?"

"The staff, if you prefer."

"You use more than one weapon?"

"All of them."

"Will you take the club against me?"

"Yes."

"I'm very good against the club."

Sol opened his barrow and drew out the club.

Sav eyed him amiably. "But I'm not forming any tribe myself. Don't misunderstand, friend—I'm willing to join yours if you beat me, but I don't want your service if I

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beat you. Do you have anything else to put up?"

Sol looked at him, baffled. He turned to Sos.

"He's thinking of your woman," Sos said, keeping it carefully neutral. "If she will accept his bracelet for a few nights, as forfeit—"

"One night is enough," Sav said. "I like to keep moving."

Sol turned to her uncertainly. He had spoken truly when he said he was not a good bargainer. Standard terms were fine, but a variable or three-person arrangement left him hanging.

"If you beat my husband," Sola said to the staffer, "I will accept your bracelet for as many nights as you desire." And Sos understood her nostalgia for attentions other than sexual; this commitment was routine. She paid a penalty for her beauty.

"One night," Sav repeated. "No offense, miss. I never visit the same place twice."

Sos said nothing more. The staffer was disarmingly frank, and whatever Sola was, she was no hypocrite. She went to the best man, wanting his name. If she had to put herself on the line to promote a settlement, she would. There was little room in her philosophy for a loser, as he had learned.

Or did she have such confidence in Sol that she knew she risked nothing?

"Agreed, then," Sol said. They trekked as a party to the nearest hostel, several miles down the trail.

Sos had his private doubts as the two men stepped up to the circle. Sol was exceedingly swift, but the club was basically a power tool, not given to clever maneuvering. Even if it didn't show in ordinary travel, Sol's recent illness was bound to have its effect upon his strength and endurance in battle. The staff was a defensive weapon, well suited to a prolonged encounter, while the club rapidly sapped the strength of the wielder. Sol had committed himself foolishly and given himself the very worst chance.

Yet what did it matter to him? If Sol won, the tribe had its first real member. If he lost, Sola would take another bracelet and become Sava, and likely be free shortly thereafter. Sos could not be certain which alternative would benefit him personally, if either did. Best to let the circle decide.

No! He had agreed to serve Sol, in exchange for a name. He should have seen to it that Sol's chances were good. As it was, he had already let the man down, when he should have been alert. Now he could only hope that his lapse did not cost Sol the victory.

The two men entered the ring, and the contest began immediately. There were no manners in the battle circle, only victory and defeat.

Sav sparred, expecting a fierce attack. It did not come. The staff

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was about six and a half feet long and the same diameter as a single-stick, with square-cut ends; it flexed slightly when put under strain, but otherwise was nothing more or less than a rigid pole. It was one of the easiest weapons to use, though it seldom led to a quick decision. It readily blocked any other instrument, but was as easily blocked itself.

Sol feinted four times with the heavy club, watching the defensive posture of his opponent, then shrugged and lashed out with a backhanded blow to the chest that neatly bypassed the horizontal shaft.

Sav looked surprised, fighting for the wind and steam that had been knocked out of him. Sol placed his club gently against the staff and pushed. The man fell backward out of the circle.

Sos was amazed. It had looked so simple, as though a lucky blow, which he knew it was not. Sol had expertly tested his opponent's reflexes, then struck with such quick precision that no parry had been feasible. It was a remarkable feat with the crude club—and no accident. Sol, nothing special outside the circle, was a tactical genius within it. A man had been added to the group, efficiently and virtually uninjured.

It appeared Sol needed no advice on terms of combat.

Sav took it philosophically. "I looked pretty foolish, didn't I, after all my talk," he said, and that was all. He didn't mope, and he made no further overtures to Sola.

The law of averages Sos had read about indicated that it would be a couple of weeks before they encountered any really able warrior. That afternoon, notwithstanding, they met two men with swords, Tor and Tyl. The first was swarthy and great-bearded, the second slim and clean-shaven.

Both sworders were married, and Tor had a little girl. They were friends, but it turned out that Tyl was the master of a group of two. Both agreed to fight, Tor first, with the stipulation that what he won belonged to Tyl. That was the way of a tribe of any size.

Against Tor, Sol took a matching sword. These were straight, flat, slashing instruments twenty inches long, pointed but seldom used for stabbing. Sword contests were usually dramatic and swift. Unfortunately, wounds were frequent too, and deaths not uncommon. That was why Sol had taken the staff against Sos, weeks ago; he had really been sure of his skill and had not wanted to risk injuring his opponent seriously.

"His wife and daughter are watching," Sola murmured. "Why does he match weapons?"

Sos understood her question to mean Tora and Tori as spectators and Sol matching sword to sword. "Because Tyl is also watching," he told her.

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Tor was powerful and launched a vigorous attack, while Sol merely fended him off. Then Sol took his turn on the offense, hardly seeming to make an effort yet pressing the other man closely. After that there was a pause in the circle as neither attacked.

"Yield," Tyl said to his man.

Tor stepped out and it was over, bloodlessly after all. The little girl gaped, not understanding, and Sola shared this confusion, but Sos had learned two important things. First, he had seen that Tor was an expert sworder who might very well have defeated Sos himself in combat. Second, he knew Tyl was even better. This was a rare pair to come upon so casually, after going so long without meeting anyone of caliber—except that that was the way the averages worked.

Sola had thought that sword against sword meant inevitable bloodshed, but in this situation the truth was opposite. Tor had felt out Sol and had been felt out in turn, neither really trying for a crippling blow. Tyl had watched, not his own man whose capabilities he knew, but Sol, and had made his judgment. He had seen what Sos had seen: that Sol possessed a clear advantage in technique and would almost certainly prevail in the end. Tyl had been sensible: he had yielded his man before the end came, accepting the odds. Perhaps the little girl was disappointed, thinking her father invulnerable—but her education in this respect would have been rude indeed.

"I see," Sola said, keeping her voice low. "But suppose they had been just about even?"

Sos didn't bother to answer.

As it was, Sol had won painlessly again and added a good man to his roster. Only by employing a weapon Tyl knew well could he have made his point so clearly.

Sos had maintained a wait and see attitude on Sol's plans for empire, knowing how much more than speed and versatility in the circle was required. His doubts were rapidly evaporating. If Sol could perform like this in the time of his weakness, there seemed to be no practical limit to his capabilities as he regained strength. He had now demonstrated superlative proficiency with staff, club and sword, and he had never been close to defeat. There seemed to be no barrier to continued additions to his tribe.

Tyl stood up and presented a surprise of his own: he set aside his sword and brought out a pair of singlesticks. He was a man of two weapons and had decided not to tackle Sol with the one just demonstrated.

Sol only smiled and drew out his own sticks.

The fight was swift and decisive, as Sos had expected after witnessing the skill of Sol's wrist. The four sticks flashed and spun, striking, thrusting and blocking, acting both as dull swords and light staffs.

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This was a special art, for two implements had to be controlled and parried simultaneously, and excellent coordination was required. It was hardly possible for those outside the circle to tell which man had the advantage—until one stick flew out of the circle, and Tyl backed out half disarmed and defeated. There was blood on the knuckles of his left hand where the skin had been broken by Sol's connection.

Yet bruises were appearing upon Sol's body, too, and blood dripped from a tear over his eye. The battle had not been one-sided.

Three men now belonged to his group, and two were not beginners.

Two weeks later Sos had his twenty men. He led them back toward the badlands, while Sol went on alone except for Sola.

VI

"Pitch your tents well up on the hillside, two men or one family to a unit, with a spare pack stacked across the river," Sos directed the group when they arrived in the valley. "Two men will walk guard day and night around the perimeter; the rest will work by day and be confined to their tents by night, without exception. The night guards will be entirely covered with mesh at all times and will scrupulously avoid any contact with the flying white moths. There will be a four-man hunting party and a similar carrying party each day. The rest will dig our trench."

"Why?" one man demanded. "What's the point of all this foolishness?" It was Nar, a blustering dagger who did not accept orders readily.

Sos told them why.

"You expect us to believe such fantastic stories by a man without a weapon?" Nar shouted indignantly. "A man who raises birds instead of fighting?"

Sos held his temper. He had known that something like this would come up. There was always some boor who thought that honor and courtesy did not extend beyond the circle. "You will stand guard tonight. If you don't choose to believe me, open your face and arms to the moths." He made the other assignments, and the men got busy setting up the camp.

Tyl approached him. "If there is trouble with the men . . ." he murmured.

Sos understood him. "Thanks," he said gruffly.

There was time that afternoon to mark off the trench he had in mind. Sos took a crew of men and laid out light cord, tying it to pegs hammered into the ground at suitable intervals. In this fashion they marked off a wide semicircle enclosing the packs stored beside the river, with a radius of about a quarter mile.

They ate from stored rations

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well before dusk, and Sos made a personal inspection of all tents, insisting that any defects be corrected immediately. The object was to have each unit tight: no space open large enough for a moth to crawl through. There were grumbles, but it was done. As night filled the valley, all but the two marching guards retired to their tents, there to stay sealed in until daylight.

Sos turned in, satisfied. It was a good beginning. He wondered where the moths hid during the day, where neither sun nor shrew could find them.

Sav, who shared his tent, was not so optimistic. "There's going to be trouble in Red River Valley," he remarked in his forthright manner.

"Red River Valley?"

"From that song you hum all the time. I know 'em all. 'Won't you think of the valley you're leaving, Oh, how lonely and sad it will be; Oh, think of the fond heart you're breaking, and the grief—' "

"All *right*!" Sos exclaimed, embarrassed.

"Well, they aren't going to like digging and carrying," Sav continued, his usually amiable face serious. "And the kids'll be hard to keep in at night. They don't pay much attention to regulations, you know. If any of them get stung and die—"

"Their parents will blame *me*. I know." Discipline was mandatory. It would be necessary to make a convincing demonstration before things got out of hand.

The opportunity came sooner than he liked. In the morning, Nar was discovered in his tent. He had not been stung by the moths. He was sound asleep.

Sos called an immediate assembly. He pointed out three men at random. "You are official witnesses. Take note of everything you see this morning and remember it." They nodded, perplexed.

He summoned Nar. "Children might have died through your neglect," he said. "A tent might have been torn unnoticed, or the shrews might have come after all by night. Until we have security from these dangers, I can not allow one man's laziness to endanger the group."

"*What* danger? How come none of *us* have seen this terrible horde of itty-bitty critters?" Nar exclaimed, laughing. There were a few smiles around the group. Sos saw that Sav was not smiling; he had predicted this.

"I'm granting you a trial, however," Sos said evenly. "By combat."

Nar drew his two daggers, still laughing. "I'm gonna carve me a big bird!"

"Take care of the matter, Tyl," Sos said, turning away. He forced his muscles to relax so that he would not show his tension, knowing that he would be branded a coward.

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Tyl stepped forward, drawing his sword. "Make a circle," he said.

"Now just a minute!" Nar protested, alarmed. "It's *him* I got the fight with. Bird-brain, there."

Stupid perched on Sos's shoulder, and for once he wished the bird's loyalty lay elsewhere.

"You owe service to Sol," Tyl said, "and the forfeit is your life, as it is for all of us. He appointed Sos leader of this party, and Sos has appointed me to settle matters of discipline."

"All *right*!" Nar shouted, brazen through his fear. "Try one of *these* in your gut!"

Sos continued to face away as the sounds of battle commenced. He was not proud of himself or of what he had to do, but he had seen no alternative. If this action served to prevent recurrences, it was worth it. It had to be.

There was a scream and a gurgle, followed by the thud of a body hitting the ground. Tyl came up to stand beside him, wiping the bright life blood from his sword. "He was found guilty," he said gently.

Why, then, was it Sos who felt guilty?

In a week the trench was complete, and the crews were working on the ramp just inside it. Sos insisted that the bottom of the trench be level and that the water be diverted to flow through it steadily. "Little dribble like that won't stop the beasties," Sav remarked dubiously. "Anyhow, didn't you say they could swim?"

"Right." Sos went on to supervise the installation of mounted fire-strikers, set in the inner edge of the trench and spaced every hundred yards.

Meanwhile the bearers were hauling drums of alcohol from all the cabins in range—but not for drinking. They were stored at intervals along the ramp.

Another week passed, and still the shrews did not come. A row of battle circles was set up, and a huge central tent fashioned of sewn family-tent sheets—but the group continued to camp at night in the tight little tents across the river. The hunting parties reported that game was moving into the area: deer and wild goats, followed by wolves and large cats and a few fierce pigs, as well as more numerous rodents. There was fresh meat for all.

Tyl went on enforcing discipline, usually with the sticks; one execution, though of doubtful validity, had been enough. But the seeming pointlessness of the labor made the men surly; they were accustomed to honorable fighting, not menial construction, and they did not like taking orders from a coward who bore no weapon.

"It would be better if you did it yourself," Sav said, commenting on one of Tyl's measures. "It needs to be done—we all know that—but when he does it, it makes *him*

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the leader. No one respects you—and that bird doesn't help much, either."

Sav was such a harmless, easy-going sort that it was impossible to take offense at what he said. It was true: Sos was accomplishing his purpose at the expense of his reputation, which had not been good to begin with. None of these people knew the circumstance of his deprivation of weapons or his bond to Sol, and he did not care to publicize it.

Tyl was the *de facto* leader of the valley group—and if Sol did not return, Tyl would surely take over. He had had aspirations for a tribe of his own, and he was a highly skilled warrior. Like Sol, he had spurned inept opponents, and so had accumulated only one tribesman in his travels; but also like Sol, he was quick enough to appreciate what could be done with ordinary men once the way was shown. Was he being genuinely helpful—or was he biding his time while he consolidated the group around himself?

Sos could not carry a weapon. He was dependent upon Tyl's good will and his own intellectual abilities. He had a year of service to give, and he meant to complete it honorably. After that—

At night it was Sola's face he saw, and Sola's body he felt touching his, her hair upon his shoulder. Here, too, he would never prevail without a weapon. The truth was that *he* was as dangerous to Sol's ambitions as was Tyl, because he wanted what only complete leadership would bring. Sola would not accept the bracelet of the second warrior of the tribe, or the third or fourth. She had been candid about that.

Yet even if he carried a weapon, he could not defeat Sol in the circle, or even Tyl. It would be fatally unrealistic ever to assume otherwise. To that extent his disarmed state was his protection.

Finally the shrews struck. They boiled over the hillside in mid-afternoon and streamed toward the camp defenses. He was almost glad to see them; at least this would vindicate his elaborate precautions. They had been gone a long time, as the resurgence of game proved; it would have destroyed his program, paradoxically, if they had not come at all.

"Dump the barrels!" he shouted, and the men assigned to this task and drilled for it repetitively knocked open the containers of alcohol and began pouring them carefully into that shallow moat.

"Women and children to the tents!" Protesting shrilly, now that the excitement had come, the families forded the river and mounted the hillside.

"Stand by with weapons!" And all those not otherwise occupied took up the defensive formation, somewhat shamefaced as they saw the size of their adversaries. There

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were fifteen men and several of the older boys present; the hunting party happened to be out.

The barrel dumpers finished their job, not without regretful glances at the good intoxicant going to waste, and stood by the extended wooden handles of the fire-strikers. Sos held off, hoping that the hunters would appear, but had no sight of them.

The shrews surged up to the moat and milled about, mistrusting the smell of it. Then, as before, the bolder ones plunged in, and the mass crossing commenced. Sos wondered whether the animals could become intoxicated in the same fashion as men.

"Fire!" he yelled. The assigned drummer beat a slow, regular cadence, and in absolute unison the men struck the igniters and leaped back. This had been one of the really sore spots of the training: grown men dancing to a musical rhythm.

A sheet of flame shot up from the moat, and the stench and smoke of improperly combusted alcohol filled the air. They were fenced in by a rising semicircle of fire. Watching it, the "dancers" shielded their eyes and gaped; now they understood what could have happened to the late man.

Sos had worked this out carefully. He knew from his readings that alcohol in its various forms would float on water and, if ignited, would burn more readily there than on land, since dirt or wood would absorb it. The layer of water in the moat offered a perfect surface for it, and the current would carry it along the entire perimeter. He was glad to have the proof; even he had had his doubts, since common sense encouraged him to believe that water quenched all fires. Why hadn't he thought to spill a few drops of the stuff into a basin of water and experiment?

Some animals had gotten through. The men were busy already beating the ground with sticks and clubs, trying to attend the savage but elusive creatures. Several warriors cursed as they were bitten. There was no longer any reason to disparage the ferocity of the tiny enemies.

The burning vapors sank; the alcohol volatilized too rapidly to last long. At Sos's signal the men rolled up more barrels from the big central tent. Here they stopped —they could not dump more alcohol until the blaze died entirely, or they would be trapped in the midst of the rising fire, and possibly blown apart by ignition of the barrels themselves. This was a problem Sos had not anticipated; the main conflagration had subsided, but individual flames would remain at the canal banks where fuel had seeped into the ground.

Tor the sworder came up, his black beard singed. "The upper end is clear," he gasped. "If you dump there—"

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Sos cursed himself for not thinking of that before. The current had swept the upriver section of the moat clean, and the shrews were already swarming across to consume their roasted vanguard and climb the breastwork. Alcohol could be dumped there a barrel at a time, and the current would feed it through the entire retrenchment at a reduced rate and enable them to maintain a controlled fire. But soon the shrews would swim down and in via the river anyway.

He decided to cut his losses. The shrews had won this battle. "Evacuate!"

The men, once contemptuous of the enemy, had had enough. Shrews decorated arms and legs and wriggled in pantaloons and carpeted the ground, teeth everywhere. Warriors dived into the river and swam for safety, ducking under the surface whenever they could, in full retreat. Sos made a quick check to see that no wounded remained, and followed.

It was now late afternoon. Was there time to move the tents back before nightfall? Or would the shrews stop before reaching the present encampment? He had to decide in a hurry.

He could not take the risk. "Pick up tents and move back as far as you can before dusk," he shouted. "Single men may camp here and stand guard." He had stored the duplicate packs within the enclosure in case the shrews attacked from the unexpected side of the river, and those reserves were now inaccessible. Another error in judgment—but until he was sure of the routing and timing of the hordes, such losses would occur.

The shrews did not ascend the hill that night. This species, at least, was a daytime marauder. Perhaps the moths saw to that. In the morning the main body, gorged on its casualties and still numberless, crossed the river and marched downstream. Only a few hardy climbers on the outskirts reached the tents.

Sos looked about. He could not assume that this was a safe location, and it was certainly not as convenient as the valley plain. There was no more wildlife here than below. It might merely mean that the shrews route was random; obviously they could overrun the hill if they chose to. Most likely they followed the general contours of the land, ascending where there was smoother going, and came *down* at this point when they came this way.

At least he had learned one thing: the shrews traveled only in the group and thus were governed by group dynamics. He strained to remember the commentary in a complex text on the subject, that he had not suspected would ever have meaningful application to his life. Groups were shaped by leaders and reflected the personalities

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and drives of those leaders; divert the key individuals and you diverted the pack. He would have to think about that, and apply it to this situation.

It would also be wise to spy on the continuing progress of the horde and learn for certain what finally happened to it. And to trace its origin—there might be a restricted breeding ground that could be put to the fire before the next swarm became a menace. He had been preoccupied with defense, and he saw now that defense alone wouldn't work.

By noon the enemy was gone, and the men were able to recover their campsite. It was a ruin; even nylon was marked by the bite of myriad teeth and fouled by layers of dung.

A committee plunged eagerly into the problem of shrew tracing and diversion, while women and children moved into the main semicircle to clean up and pitch new tents. It seemed as safe a place as any, since the following horde would starve if it followed the identical route of this one. The next shrew foray was more likely to come down the opposite bank. Besides, there was a great deal of laundry to do in the river.

The bones and gear of the missing hunting party were discovered three miles upriver. Suddenly everyone appreciated the menace properly, and no more grumbles about the work were heard. Sos, too, was treated with somewhat more respect than hitherto. He had proved his point.

VII

Sol arrived two weeks later with another group of fifty men. He now had a fair-sized tribe of sixty-five warriors, though the majority of these were inexperienced and untrained youths. The best men were still tied up in established tribes, as Sos had pointed out in their first discussion—but that situation would change in due course.

Sos trotted out the witnesses to the execution of Nar and had them describe to Sol what they had observed. There were only two; the third had been a hunter on the day of warfare. Sos was not certain how the master of the tribe would take it, since his management of the valley group had cost five men. That was a full quarter of the complement put in his charge.

"There were two guards?" Sol inquired.

The witnesses nodded. "Always."

"And the other that night did not report that the first was sleeping?"

Sos clapped his palm to his forehead. For a man who fancied his brain, he had blundered ridiculously. *Two* had been guilty, not one.

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In the end Tyl had another job with the sticks, while Sos and Sol retired for a private consultation. Sos described in detail the events of the past five weeks, and this time Sol's attention never wandered. He had little patience with history or biology, but the practical matters of empire building were of prime interest to him. Sos wondered whether the man had also had some intervening experience with the problems of discipline. It seemed likely.

"And you can form these new men into a group that will conquer other tribes?" Sol inquired, wanting the reassurance.

"I think I can, in six months, now that we have plenty of men and good grounds. Provided they will obey me implicitly."

"They obey Tyl."

Sos looked at him, disturbed. He had expected to have Sol's direct backing for this longer haul. "Aren't you going to stay here?"

"I go out tomorrow to recruit more men. I leave their training to you."

"But sixty-five warriors! There is bound to be trouble."

"With Tyl, you mean? Does he want to be the leader?" Sol was perceptive enough, where his empire was concerned.

"He has never said so, and he has stood by me steadily," Sos admitted, wanting to be fair. "But he would not be human if he did not think in such terms."

"What is your advice?"

Now it was in his own lap again. At times Sol's faith in him was awkward. He could not demand that the master stay with his tribe; Sol evidently liked recruiting. He could ask him to take Tyl with him—but that would only require his replacement as disciplinary leader, and the next man would present much the same problem. "I have no evidence that Tyl lacks honor," he said. "I think it would be best to give him good reason to stay with your tribe. That is, show him that he stands to profit more by remaining with you than by striking out on his own, with or without any of the present group."

"He stands to profit by the loss of his *head* if he moves against me!"

"Still—you could designate him first warrior in your absence, and put him in charge of his own subgroup. Give him a title to sport, so to speak."

"But I want *you* to train my men."

"Put him over me and give him the orders. It will amount to the same thing."

Sol thought it over. "All right," he said. "And what must I give *you*?"

"Me?" Sos was taken aback. "I agreed to serve you for one year, to earn my name. There is nothing else you need to give me." But he saw Sol's point. If Tyl's loyalty re-

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quired buttressing, what about his own? Sol was well aware that the training was in the long run more important than the discipline of the moment, and he had less hold on Sos than on the others. Theoretically, Sos could renounce the name and leave at any time.

"I like your bird," Sol said surprisingly. "Will you give him to me?"

Sos peered sidewise at the little fellow snoozing on his shoulder. The bird had become so much a part of his life that he hardly thought about the matter any more. "No one owns Stupid. Certainly you have as much claim on him as I do—you were the one who cut down the hawk and saved him. The bird just happened to fix on me, for some reason nobody understands, even though I did nothing for him and tried to shoo him away. I can't give him to you."

"I lost my bracelet in similar fashion," Sol said, touching his bare wrist.

Sos looked away uncomfortably.

"Yet if I borrowed your bird, and he mated and fathered an egg, I would return that egg to you," Sol murmured.

Sos stomped away, too angry to speak.

No further words passed between them—but the next morning Sol set out again alone and Sola stayed at the camp.

Tyl seemed quite satisfied with his promotion. He summoned Sos as soon as the master was out of sight. "I want you to fashion this bunch into the finest fighting force in the area," he said. "Anyone who malingers will answer to me."

Sos nodded and proceeded with his original plan.

First he watched each man practice in the circle and assessed his style and strengths and weaknesses, making notes on a pad of paper in the script of the ancient texts. Then he ranked the warriors in order, by weapon: first sword, second sword, first staff, and so on. There were twenty swords in the collection; it was the most popular instrument, though the injury and death rate was high. There were sixteen clubs, twelve staffs, ten sticks (he had never discovered why the misnomer "singlestick" should apply to the pair), five daggers and a solitary star.

The first month consisted entirely of drill within the individual groups, and continual exercise. There was much more of both than the warriors had ever had before, because contestants were readily available and there was no delay or traveling between encounters. Each practiced with his weapon until fatigued, then ran laps around the inner perimeter of the camp and returned for more practice. The best man in

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each weapon class was appointed leader and told to instruct the others in the fine points of his trade. The original rankings could be altered by challenge from below, so that those whose skill increased could achieve higher standing. There was vigorous competition as they fell into the spirit of it, with spectators from other weapons applauding, jeering and watching to prevent injurious tactics.

The leaves fell, then snow, and the moths and shrews disappeared, though group vigilance and action had long since reduced these menaces to comparative impotence. As a matter of fact, shrew stew had become a staple in the diet, and it was awkward to replace this bountiful source of meat when winter came.

The rings were swept clean each day, and the interminable drill went on, in shine or snow. Additional warriors appeared steadily, but still Sol did not return.

VIII

With the cold weather, Sav elected to move into the main tent, which was heated by a perpetual fire. It had been subdivided into numerous smaller compartments, for some privacy between families. Increasingly, eligible young women were showing up in search of bracelets. Sav was candid about passing his around.

Sos stayed in the small tent, unwilling to mix freely with those who bore weapons. His impotence in the circle was a matter of increasing distress, though he could not admit it openly. He had not appreciated the extent of his compulsion to assert himself and solve problems by force of arms until denied this privilege. He had to have a weapon again—but was barred from employing any of the six that the crazies distributed to the cabins. These were mass-produced somewhere, standardized and stocked freely in the hostels, and alternates such as the bow and arrows were not useful in the circle.

He had wondered often about this entire state of affairs. Why did the crazies take so much trouble to provide these things, making the nomad existence possible, and then affect complete lack of concern for the use men made of them? Sometime he meant to have the answer. Meanwhile, he was a member of the battle society, and it was necessary for him to assert himself in its terms.

If he were able.

He stripped his clothing and climbed naked into the warm sleeping bag. This was another item the crazies obligingly stocked in wintertime, and many more than the normal number had been provided at the local cabin, in response to the increased drain on its facilities. They almost certainly

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knew about this camp, but didn't seem to care. Where the men were, they sent supplies, and sought no other controls.

He had a small gas lamp now which enabled him to read the occasional books the crazies left behind. Even in this regard they were helpful; when he started taking books from the hostel, more appeared, and on the subjects he seemed to favor. He lit the lamp and opened his present volume: a text on farming, pre-Blast style. He tried to read it, but it was complicated and his mind could not concentrate. Type and quantity of fertilizer for specified acreage; crop rotation; pesticide, applications of and cautions concerning . . . such incomprehensible statistifications, when all he wanted to know was how to grow peanuts and carrots. He put the book aside and turned off the light.

It was lonely, now that Sav was gone, and sleep did not come readily. He kept thinking of Sav, passing his bracelet around, embracing yielding and willing flesh, there in the main tent. Sos could have done likewise; there were women who had eyed his own clasp suggestively even though he carried no weapon. He had told himself that his position required that he remain unattached, even for isolated nights. He knew that he deceived himself. Possession of a woman was the other half of manhood, and a warrior could bolster his reputation in that manner as readily as in the circle. The truth was that he refused to take a woman because he was ashamed to do so while weaponless.

Someone was approaching his tent. Possibly Tor, wanting to make a private suggestion. The beard had a good mind and had taken such serious interest in group organization and tactics that he outstripped Sos in this regard. They had become good friends, as far as their special circumstances permitted. Sometimes Sos had eaten with Tor's family, though the contact with plump, good-natured Tora and precocious Tori only served to remind him how much he had wanted a family of his own.

Had wanted? It was the other way around. He had never been conscious of the need until recently.

"Sos?"

It was a woman's voice—one he knew too well. "What do you want, Sola?"

Her hooded head showed before the entrance, black against the background snow. "May I come in? It's cold out here."

"It is cold in here, too, Sola. Perhaps you should return to your own tent." She, like him, had maintained her own residence, pitched near Tyl's. She had developed an acquaintance with

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Tyla. She still wore Sol's bracelet, and the men stayed scrupulously clear of her.

"Let me in," she said.

He pulled open the mesh with one bare arm. He had forgotten to let down the solid covering after shutting off the lamp. Sola scrambled in on hands and knees, almost knocking over the lamp, and lay down beside his bag. Sos now dropped the nylon panel, cutting off most of the outside light and, he hoped, heat loss from inside.

"I get so tired, sleeping alone," she said.

"You came here to sleep?"

"Yes."

He had intended the question facetiously and was set back by her answer. A sudden, fierce hope set his pulses thudding, seemingly more powerful for its surprise. He had deceived himself doubly: it was neither his position nor his lack of a weapon that inhibited him, but his obsession with one particular woman. This one.

"You want my bracelet?"

"No."

The disappointment was fiercer. "Get out."

"No."

"I will not dishonor another man's bracelet. Or adulterate my own. If you will not leave yourself, I will have you out by force."

"And what if I scream and bring the whole camp running?" Her voice was low.

He remembered encountering a similar situation in his diverse readings, and he knew that a man who succumbed to that ploy the first time could never recover his independence of decision. Time would only make it worse. "Scream if you must. You will not stay."

"You would not lay your hands on me," she said smugly, not moving.

He sat up and gripped her furry parka, furious with her and with his guilty longing. The material fell open immediately, wrapped but not fastened. His hands and the filtered light still reflecting in from the snow told him quickly that she wore nothing underneath. No wonder she had been cold!

"It would not look very nice, a naked man struggling in his tent with a naked woman," she said.

"It happens all the time."

"Not when she objects."

"In *my* tent? They would ask why she came naked to it, and did not scream before entering."

"She came dressed, to inquire about a difficult problem. An error in fractions." She fumbled in the pocket and drew out a pad with figures scrawled upon it—he could not see them but was sure she had done her homework in this respect. Even to the error, one worthy of his attention. "He drew her

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inside—no, *tricked* her there—then tore off her clothing."

He had fallen rather neatly into her trap after all. She was too well versed. His usefulness to the group would be over, if the alarm were given now. "What do you want?"

"I want to get warm. There is room in your bag for two."

"This will gain you nothing. Are you trying to drive me out?"

"No." She found the zipper and opened the bag, letting the cold air in. In a moment she was lying against him, bare and warm, her parka outside and the zipper refastened.

"Sleep, then." He tried to turn away from her, but the movement only brought them closer together.

She attempted to bring his head over to hers, catching at his hair with one hand, but he was rigid. "Oh, Sos, I did not come to torment you!"

He refused to answer that.

She lay still for a little while, and the burning muliebrity of her laid siege to his resistance. Everything he desired, so close. Available—in the name of dishonor.

Why did she choose this way? She had only to put aside Sol's emblem for a little while. . . .

Another figure detached itself from the shadow of the main tent and trod through the packed snow. Sos, though his eyes were closed, recognized the tread. Tor.

"You have your wish. Tor is coming."

Then her bluff stood exposed, for she shrank into the bag and tried to hide. "Send him away!" she whispered.

Sos grabbed the parka and tossed it to the foot of the tent. He drew the lip of the bag over her head, hoping the closure wouldn't suffocate her. He waited.

Tor's feet came up to the tent and stopped. No word was spoken. Then Tor wheeled and departed, evidently deciding that the dark, closed tent meant that his friend was already asleep.

Sola's head emerged when it was safe. "You *do* want me," she said. "You could have embarrassed me. . . ."

"Certainly I want you. Remove his bracelet and take mine, if you want the proof."

"Do you remember when we lay against each other before?" she murmured, this time evading the direct refusal.

"Greensleeves."

"And Red River Valley. And you asked me what I wanted in a man, and I told you leadership."

"You made your choice." He heard the bitterness in his tone.

"But I did not know then what *he* wanted." She shifted position, placing her free arm under his and around his back, and Sos was unable to control the heat of his reaction and knew she knew it.

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"You are the leader of this camp," she said. "Everybody knows it, even Tyl. Even Sol. He knew it first of all."

"If you believe that, why do you keep his bracelet?"

"Because I am not a selfish woman!" she flared, amazing him. "He gave me his name when he didn't want to, and I must give him something in return, even if I don't want to. I can't leave him until we are even."

"I don't understand."

It was her turn for bitterness. "You understand!"

"You have a strange system of accounting."

"It is *his* system, not mine. It doesn't fit into your numbers."

"Why not pick on some other man for your purpose?"

"Because he trusts you—and I love you."

He could offer no rebuttal to that statement. Sol had made the original offer, not her.

"I will leave now, if you ask me," she whispered. "No screaming, no trouble, and I will not come again."

She could afford the gesture. She had already won. Wordlessly he clasped her and sought her lips and body.

And now she held back. "You know the price?"

"I know the price."

Then she was as eager as he.

IX

In the spring Sol reappeared, lean and scarred and solemn, toting his barrow. More than two hundred men were there to greet him, tough and eager to the last. They knew his return meant action for them all.

He listened to Tyl's report and nodded matter-of-factly. "We march tomorrow," he said.

That night Sav came to share his tent again. It occurred to Sos that the staffer's departure and return had been remarkably convenient, but he did not comment directly. "Your bracelet got tired?"

"I like to keep moving. 'Bout run out of ground."

"Can't raise much of a family that way."

"Sure can't!" Sav agreed. "Anyway, I need my strength. I'm second staff now."

Yes, he thought forlornly. The first had become second, and there was nothing to do but abide by it. The winter had been warmer than the spring.

The tribe marched. The swords, fifty strong, moved out first, claiming their privilege as eventual winners of the point-score tournament. The daggers followed, winners on index, and then the sticks, staffs and clubs. The lone morningstar brought up the rear, low scorer but not put out. "My weapon is not for games," he said, with some justice.

Sol no longer fought. He stayed

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with Sola, showing unusual concern for her welfare, and let the fine military machine Sos had fashioned operate with little overt direction. Did he know what his wife had been doing all winter? He had to, for Sola was pregnant.

A week out they caught up to another tribe. It contained about forty men, and its leader was typical of the crafty oldsters Sos had anticipated. The man met Tyl and surveyed the situation—and agreed to put up just four warriors for the circle: sword, staff, sticks and club. He refused to risk more.

Disgruntled, Tyl retired for a conference with Sos. "It's a small tribe, but he has many good men. I can tell they are experienced and capable by the way they move and the nature of their scars."

"And perhaps also by the report of our advance scout," Sos murmured.

"He won't even send his best against us!" Tyl said indignantly.

"Put up fifty men and challenge him yourself for his entire group. Let him inspect the men and satisfy himself that they are worth his trouble."

Tyl smiled and went to obtain Sol's official approval, a formality only. In due course he had forty-five assorted warriors assembled.

"Won't work," Tor muttered.

The wily tribe-master looked over the offerings, grunting with approval. "Good men," he agreed. Then he contemplated Tyl. "Aren't you the man of two weapons?"

"Sword and stick."

"You used to travel alone—and now you are second in command to a tribe of two hundred."

"That's right."

"I will not fight you."

"You insist upon meeting our master, Sol?"

"Certainly not!"

Tyl controlled his temper with obvious difficulty and turned to Sos. "What now, advisor?" he demanded with irony.

"Now you take Tor's advice." Sos didn't know what the beard had in mind, but suspected it would work.

The first match began at noon. The opposing sworder strode up to the circle, a tall, serious man somewhat beyond the first flush of youth. From Sol's ranks came Dal, the second dagger: a round-faced, short-bodied man whose frequent laugh sounded more like a giggle. He was not a very good fighter overall, but the intense practice had shown up his good point: he had never been defeated by the sword. No one quite fathomed this oddity, since a stout man was generally most vulnerable to sharp instruments, but it had been verified many times over.

The sworder stared dourly at his opponent, then stepped into the circle and stood on guard. Dal drew one of his knives and faced him—precociously imitating with the eight-inch blade the formal

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stance of the other. The picked watchers laughed.

More perplexed than angry, the sworder feinted experimentally. Dal countered with the diminutive knife as though it were a full-sized sword. Again the audience laughed, more boistrously than strictly necessary.

Sos aimed a surreptitious glance at the other tribe's master. The man was not at all amused.

Now the sworder attacked in earnest, and Dal was obliged to draw his second dagger—daintily—and hold off the heavier weapon with quick feints and maneuvers. A pair of daggers were generally considered to be no match for a sword unless the wielder were extremely agile. Dal looked quite *un*-agile—but his round body always happened to be just a hair out of the sword's path, and he was quick to take advantage of the openings created by the sword's inertia. No one who faced the twin blades in the circle could afford to forget that there were *two*, and that the bearer had to be held to a safe distance at all times. It was useless to block a single knife if the second were on its way to a vulnerable target.

Had the sworder been a better man, the tactics would have been foolhardy, but again and again Dal was able to send his opponent lumbering awkwardly past, wide open for a crippling stab. Dal didn't stab. Instead he flicked off a lock of the sworder's hair and waved it about like a tassel while the picked audience roared. He slit the back of the sworder's pantaloons, forcing him to grab at them hastily, while Sol's men rolled on the ground, yanked up their own trunks and slapped each other on shoulders and backs.

Finally the man tripped over Dal's artful foot and fell out of the circle, ignominiously defeated. But Dal didn't leave the circle. He kept on feinting and flipping his knives as though unaware that his opponent was gone.

The opposite master watched with frozen face.

Their next was the staffer. Against him Tor had sent the sticks, and the performance was a virtual duplicate of the first. Kin the sticker fenced ludicrously with one hand while carrying the alternate singlestick under his arm in his teeth or between his legs, to the lewd glee of the scoffers. He managed to make the staffer look inept and untrained, though the man was neither. Kin beat a tattoo against the staff as though playing music, and bent down to pepper the man's feet painfully. By this time even some of the warriors of the other tribe were chuckling . . . but not their chief.

The third match was the reverse: Sav met the sticks. He hummed a merry folksong as he poked the slightly bulky belly of his opposite with the end of his

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staff, preventing him from getting close. "Swing low, sweet chariot!" he sang as he jabbed. The man had to take both sticks in one hand in order to make a grab for the staff with the other. "Oh, no John, no John, no John, no!" Sav caroled as he wrapped that doubled hand and sent both sticks flying.

It was not his name, but that man was ever after to be known in the tribe as Jon.

Against their club went Mok the Morningstar. He charged into the circle whirling the terrible spiked ball over his head so that the wind sang through the spikes, and when the club blocked it, the chain wrapped around the handle until the orbiting ball came up tight against the lubber's hand and crushed it painfully. Mok yanked, and the club came away, while the man looked at his bleeding fingers. As the star had claimed—his was not a weapon for games.

Mok caught the club, reversed it, and offered the handle to his opponent with a bow. "You have another hand," he said courteously. "Why waste it while good bones remain?" The man stared at him and backed out of the circle, utterly humbled. The last fight was over.

The other master was almost incoherent. "Never have I seen such —such—"

"What did you expect from the buffoons you sent against us?" a slim, baby-faced youngster replied, leaning against his sword. He had been foremost among the scoffers, though he hardly looked big enough to heft his weapon. "*We* came to fight, but your cavorting clowns—"

"You!" the master cried furiously. "*You* meet my first sword, then!"

The boy looked frightened. "But you said only four—"

"No! All my men will fight. But first I want you—and that foul beard next to you. And those two loud-mouthed clubbers!"

"Done!" the boy cried, standing up and running to the circle. It was Neq, despite his youth and diminutive stature, the fourth sword of fifty.

The beard, of course, was clever Tor himself, now third sword. The two clubbers were first and second in their group of thirty-seven.

At the end of the day Sol's tribe was richer by some thirty men.

So it went. The group's months in the badland camp had honed it to a superb fighting force, and the precise multi-weapon ranking system placed the warriors exactly where they could win. There were some losses—but these were overwhelmingly compensated by the gains.

Only once was the tribe seriously balked, and not by another tribe. One day an enormous, spectacularly muscled man came ambling down the trail swinging his club as though it were a singlestick.

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Sos was actually one of the largest men in the group, but the stranger was substantially taller and broader through the shoulders than he. This was Bog, whose disposition was pleasant, whose intellect was scant, and whose chief joy was pulverizing men in the circle.

"Fight? Good, good!" he exclaimed, smiling broadly. "One, two, three a'time! Okay!" And he bounded into the circle and awaited all comers. Sos had the impression that the main reason the man had failed to specify more at a time was that he could count no higher.

Tyl, his curiosity provoked, sent in the first club to meet him. Bog launched into battle with no apparent science. He simply swept the club back and forth with such ferocity that his opponent was helpless against it. Hit or miss, Bog continued unabated, fairly bashing the other out of the circle before the man could catch his footing.

Victorious, Bog grinned. "More!" he cried.

Tyl looked at the tribe's erstwhile first clubber, a man who had won several times in the circle. He frowned, not crediting it. He sent in the second club.

The same thing happened. Two men lay stunned on the ground, thoroughly beaten.

Likewise the two ranking swords and a staff, in quick order. "More!" Bog exclaimed happily, but Tyl had had enough. Five top men were shaken and lost, in the course of only ten minutes, and the victor hardly seemed to be tired.

"Tomorrow," he said to the big clubber.

"Okay!" Bog agreed, disappointed, and accepted the hospitality of the tribe for the evening. He polished off two full-sized meals and three willing women before he retired for the night. Male and female alike gaped at his respective appetites, hardly able to credit

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either department, but these were not subject to refutation. Bog conquered everything—one, two or three at a time.

Next day he was as good as ever. Sol was on hand this time to watch while Bog bashed club, sticks and daggers with equal facility, and even flattened the terrible star. When struck, he paid no attention, though some blows were cruel; when cut, he licked the blood like a tiger and laughed. Blocking him was no good; he had such power that no really effective inhibition was practical. "More!" he cried after each debacle, and he never tired.

"We must have that man," Sol said.

"We have no one to take him," Tyl objected. "He has already wiped out nine of our best, and hasn't even felt the competition. I might kill him with the sword—but I couldn't defeat him bloodlessly. We'd have no use for him dead."

"He must be met with the club," Sos said. "That's the only thing with enough mass to slow him. A powerful, agile, durable club."

Tyl stared meaningfully at the three excellent clubbers seated by Bog's side of the circle. All wore large bandages where flesh and bone had succumbed to the giant's attack. "If those were our ranked instruments, we need an unranked warrior," he observed.

"Yes," Sol said. He stood up.

"Wait a minute!" both men cried. "Don't chance it yourself," Sos added. "You have too much to risk."

"The day any man conquers me with any weapon," Sol said seriously, "is the day I go to the mountain." He took up his club and walked to the circle.

(To be continued next month)

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BOOKS

Guest reviewers this month are Isaac Asimov, Joanna Russ, and Virginia Carew. Judith Merril's column will appear next month.

James D. Watson, THE DOUBLE HELIX, Atheneum, $5.95

I READ THE REVIEWS OF THIS book before I read the book, and I must say that I have never been so misled by reviews in my life. I strongly suspect that many of the reviewers read the book without understanding the subject. Failing to know, or learn, anything about nucleic acids, they concentrated on the rest of the book with a nose for scandal.

In this, they were encouraged by the fact that the Corporation of Harvard University, with the usual cowardice of the pompous, had forbidden Harvard University Press to publish the book because some of Watson's ex-colleagues were unhappy with it. At once the rumor spread (reinforced by the reviewers who believed the rumor) that the book was scandalous and that it showed up scientists in a very gamy light. Every non-scientist rubbed his hands in glee, and undoubtedly the book will become a best seller and many will be disappointed.

The book tells in intimate detail the tale of the discovery of the structure of the nucleic acid molecule. It was a monumental discovery, and if you don't understand the structure or its significance you have already missed the chief delight of the book. Please find out. (Since we are among friends, I might urge you to read my own book "The Genetic Code" first. Borrow a copy; I'm not trying to make sales.)

Almost as important, the book tells how science is "done." (Quotation marks are Dr. Watson's.) And tells it perfectly, too. Watson describes how he grew interested in nucleic acids from a cold start; how he connived to get involved in the matter and to interest other, more experienced minds; how he kept them interested under difficulties; how he and that extraordinary man, Francis Crick, kept barreling from wrong solution to wrong solution with the constant fear that the even more extraordinary Linus Pauling would get there first.

Pauling didn't; but at one point

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he made such a simple error that Watson was terrified. He knew that as soon as Pauling discovered the error he would, in embarrassment, put the full power of his mind to the problem (until then he had been working at it in his off-moments, of which there were very few) and would have the solution in a matter of weeks. Watson and Crick raced madly, and it suddenly dawned on Watson that everyone was wrong in trying to construct the molecules with the nitrogenous bases on the outside. He turned the structure "inside out" with the bases on the inside, and everything fell into place.

And the "scandal"? Well, it seems that Francis Crick is terribly conceited, talks loudly, laughs raucously, demands attention, and is extremely interested in girls. Since I share every one of these properties with him, I fail to see the scandal. If these are the only faults Crick has, he is a saint.

It also seems that scientists are human, that they are petty at times, and jealous at others, that they try to steal marches on each other, are delighted when competitors mis-step, and try with grim and almost ruthless ambition for the Nobel Prize.

Scandal? Only if the obvious is scandalous.

It is James Watson himself who comes off worst, in my view. Somehow I got the impression that he is not a very pleasant young man to know. He all but makes it seem at one point that he was anxious to get ahead by using his sister's beauty as bait. Oh, well, it didn't work, anyway.

But this is the point—any science fiction reader ought to read the book to see how scientists work; and any science fiction *writer* should do so as an indispensable part of his training.

—ISAAC ASIMOV

Judith Merril, editor, THE BEST OF THE BEST, Delacorte, $6.50

René Barjavel (translated by Damon Knight), ASHES, ASHES, Doubleday, $3.95

James Blish and Norman L. Knight, A TORRENT OF FACES, Doubleday, $4.95

THE BEST OF THE BEST is a collection of stories chosen by the editor from her previous anthologies, THE YEAR'S BEST S-F, from 1955 to 1960. At about the fifth story, the Merrilian bent of these twenty-nine tales becomes clear—they are human, "poignant," chosen for feeling and not for gimmickry or detachable ideas. The hard sciences are conspicuously absent. So is philosophy, despite the editor's introduction. At best this leads to stories like J. G. Ballard's "Prima Belladonna," the first of his Vermilion Sands stories I ever read. Is it the first ever published? When it appeared in the

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second annual Best anthology this story seemed cryptic, but it vindicates Miss Merril's judgment retrospectively. It's not only full-bodied and perfectly clear; it's probably one of the earliest future-society-taken-for-granted-instead-of-explained stories and it still manages to look futuristic and fresh. Human feeling and literary finish were also good guides in selecting the star of the collection, Gummitch the superkitten (!) who returns in "Space-Time for Springers" by Fritz Leiber. The less I say about this story the less I will slobber over the page and make a nut of myself. There are also two by Carol Emshwiller, Avram Davidson's "Golem," an early (?) Cordwainer Smith ("No, No, Not Rogov!") which is only half mad, and Damon Knight's "Stranger Station." These are all first-rate stories and so are many of the others. But.

The editor's taste for "the human factor"—or a retrospective interest in New Thing writers like Ballard and Emshwiller—or perhaps a reaction against too much hardware in the s-f field (both now and back then)—has made THE BEST OF THE BEST a surprisingly monotonous book. The stories are good, but the tone is somehow the same all through. In her introduction the editor notes that science fiction is "a field which degenerates . . . readily into mere adventure story." In avoiding "mere adventure story," Miss Merril sometimes chooses stories that degenerate into mere something-else. Walter Miller's "Hoofer," for example, need not have been s-f at all. It's a re-doing of a good old American cliché, The Man Trapped By Marriage, and it isn't nearly as good as (say) Tennessee Williams' "Moony's Kid Don't Cry." Isaac Asimov's "Dreaming Is a Private Thing" is really about the movies. A story like Clifford Simak's "Death in the House" is moving, but it's sixth in the book; by the time one gets to Theodore Cogswell's "You Know Willie" (next to last) a certain feeling of repetition has begun to creep in. And a story like Fritz Leiber's "Mariana" is too close to untransformed fantasy.

Of course you needn't read all twenty-nine stories at one go, as I did. One of the best things about THE BEST is that it is fat, the way anthologies used to be in the fifties. You could lose yourself in one for weeks. It's a good book to give to people who think they don't like "science fiction." If you read it yourself and start longing for missile trajectories and DNA, you can buy another sort of anthology and dip into the two alternately, like a Chinese dinner. If you haven't been following the annual Merril BESTs, then by all means buy THE BEST OF THE BEST and gnaw your way through it solo.

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ASHES, ASHES, translated by Damon Knight from the French of René Barjavel, was originally published in France in 1943. Why on earth wasn't it translated twenty years ago? Why on earth didn't Doubleday pick something more recent? There's a certain *frisson* in reading about French cardboard people instead of American cardboard people, and the satire of future French society is pleasant for the first fifty pages. But once the book gets serious the fun vanishes. The novel is anti-technological and reactionary, the characters' adventures are trite by now, and the Utopia at the end is interesting only as pure cliché. Those passionately fond of High Camp may enjoy this, though even they will boggle at some teeny impossibilities in the text. Like the spontaneous generation of cholera microbes, for instance. The translator has apparently enjoyed himself (when he could) and has happily left the style of the novel French instead of trying to Americanize it. For example: "The most beautiful of these statues . . . represented Intelligence. She opened her arms . . . as if wishing to press to her breasts, each a meter in radius, all these men whom she had inspired." If only she had inspired Barjavel to stick to satire or Doubleday to stick to sense!

A TORRENT OF FACES is written by James Blish and Norman L. Knight. This makes for difficulty in constructing a compound name—it comes out either Blight or Knish, which is unfair to the book. Let's settle on B & K. The novel is a picture of Utopia in the 28th century: the earth supports one thousand billion people in reasonable comfort and contentment until natural disaster destroys the world society. The technical details of feeding and housing such vast numbers are the most fascinating things in the book; the many air views of cities, reefs, oceans, and "biological preserves" are superb. The authors' preface mentions "pages of calculations . . . drawings and diagrams [and] about thirty thousand words of notes" going back to 1948. One can believe it. The shapes and sizes of cities, methods of food processing, family conventions, strange hotels, air travel, artificially bred mermen ("Tritons"), sewage disposal, et cetera —these are all beautifully presented. But the people are completely unreal. They aren't simply conventional or inconsistent or carelessly written. They are *pretexts* (most of the dialogue is expository), and their human reactions are flatly unbelievable. People in the mass are fine (a family convention in a "disaster city" is the best part of the book), but individual people don't even have the reality that comes from a

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strongly felt stereotype. It's as if everything human in the book was conceived in a movie long shot and then half-heartedly turned into a close-up. There are no overtones in the people or the social system. Etiquette, travel, leisure, habits, attitudes are presented as isolated facts, one at a time. They have been figured out logically but never felt as a whole. For example, there are two bloodless romances, one interracial (between human and Triton), but neither generates as much tension as a decision about whether to have a cup of coffee or not. There is also a psychotic member of the world government whose scheming isn't even necessary to the plot. There are times when A TORRENT OF FACES reads like a particularly antiseptic juvenile.

What happened? Maybe those years of notes and diagrams have something to do with it. This Utopia is so full *as a place* that there is no room for the people. The individual Tritons are clean in body and mind, like Boy Scouts or Sidney Poitier's recent roles, but *all mermen* (we are told) are inveterate shutterbugs. The latter is real. Disasters are real. Statistics are real. Slime culture is real. The most dramatic scene in the book concerns a large capsule of gallium and a lightly-alloyed magnesium baffle. The most memorable character is an asteroid called Flavia. Why should the human beings be there at all? I would've been ten times as pleased with a fictional history or fictional textbook. The material is fascinating in itself. Why follow the *same* silly characters all through? There's a great deal to enjoy in the book but it's mixed with a lot of bland, exasperating lifelessness. Here's a Triton calming his hysterical Dryland sweetheart: "There are some facts about Tritons that you don't know, and they will almost certainly change your outlook when you do." And here is the panicky end of the Jones convention: ". . . a surf of Joneses was already out on the roof of the city. He could see several amoeboid batches of them, dim and sad in their drooping finery, clumping together like slime molds on the flyport's staging apron; but most of them were invisible, masked by the trees . . . A falling star, so immense that it might have been a falling sun, was streaking with preternatural slowness over the city, lighting the whole landscape with a garish blue-white glare."

There's plenty of both. Take your choice.

—JOANNA RUSS

I. F. Clarke, VOICES PROPHESYING WAR: 1763-1984, Oxford University Press, $10.00

Robert Scholes, THE FABULATORS, Oxford University Press, $5.00

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Mark R. Hillegas, THE FUTURE AS NIGHTMARE: H. G. WELLS AND THE ANTI-UTOPIANS, Oxford University Press, $5.75

Nell Eurich, SCIENCE IN UTOPIA: A MIGHTY DESIGN, Harvard University Press, $7.95

Desmond Tarrant, JAMES BRANCH CABELL: THE DREAM AND THE REALITY, University of Oklahoma Press, $5.95

The signs and portents have appeared: Before long s-f writers will all be working in the glare of criticism and mainstream reviews. Readers' tastes will be formed for them by fly-leaf pundits, then refined and corrected by intellectual establishmentarians. Scholars seeking monographs and immortality will run down the facts like so many bloodhounds every time a writer snitches a mouth-filling name from Milton or a plot device from the Elder Edda. Readers and writers alike will lose all the privileges of the disinherited, all the privacies of pulp status. No longer will we quietly choose an s-f magazine from racks stuffed with pulp horoscopes and crossword-puzzle collections. Nor will we find paperback originals among the piles of drugstore pornography.

The bloom is off the rose—the university presses have found us out. They know that writers with eyes, ears, ideas, and irreverence lurk deep in the woody pulps. Of the five critical books discussed here, three were published from Oxford, one from Harvard, and one from the University of Oklahoma Press. Each author is a well-regarded academic. There are more like them every year. And there will be more books like these every year.

Typically, such books take a smallish slice of s-f territory and map its history and sources through several languages and/or many centuries. Sometimes the writers are not apparently aware that they are working on the fringes of s-f; *always* they show the close connection of their topic to the mainstreams of letters and demonstrate its importance in the history of western ideas.

The results of such detailed attention to s-f are, more often than not, more interesting, more original, and more widely thoughtful than the usual book of literary criticism. Whatever one's initial reaction to this invasion of scholars, they bring tools and techniques that can increase the depth and scope of a genre already broad and vital. Comparatively few will read these books, but their light already falls on many stories in this magazine; this small group of books can be seen as a sample of the future.

I. F. Clarke's VOICES PROPHESYING WAR is a careful examination of the development of a basic s-f theme, the problem of the next

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war. It has been well received by the academic community, and the first four of the five long chapters come off well by either academic or s-f standards.

Clarke uses the sensational reception of Chesney's THE BATTLE OF DORKING in 1871 to demonstrate the relation between the premises of fiction and specific political and social conditions. Chesney's work was the first well-realized story of its kind; it had real people with real stakes in the action, and they moved and fought in a real landscape. But Chesney was not primarily a writer; he was an army colonel writing to warn of the danger of invasion in a badly equipped and poorly organized nation. He scored. In the furor, the British prime minister had to warn the populace against alarmism and questions were asked in Parliament. A spate of imitations, replies, adaptations, and translations soon made this new form familiar to the increasingly literate peoples of the west. Clarke calls it "purposive fiction."

Detailing Chesney's successors until 1914, Clarke shows how fictional premises changed as the nation state and the resources of technology developed. Racism, nationalisms of all types, imperialism, theories of defense, of international justice, of the usefulness and function of warfare (in promoting the Darwinian survival of the fittest, for example) were hashed over and rehashed, with protagonists changing according to political fad and armament fashion.

Not until H. G. Wells published THE WAR OF THE WORLDS in 1898 were nationalistic and local aspirations succeeded by a wider loyalty to human possibility among writers of purposive fiction. Clarke feels that the Wells book has not been surpassed to date.

In his last and least satisfactory chapter, Clarke convincingly identifies works like ON THE BEACH and FAIL SAFE as successors of THE BATTLE OF DORKING; he says they are expressions of the didactic, romantic, and aggressive drives of their writers (p. 202). But then he adds, "And with that there is now nothing remaining to be said about the history of the tale of imaginary warfare" (p. 204). War today is largely seen, he believes, as a big bang without even a whimper after it. War and extinction are equated. Nothing is left for a writer to say.

He finds himself in this position partly because he dismisses standard science fiction; wars set in the "remote epoch of the galactic civilizations" are "ritual games" that read like "a nightmare by Zane Grey out of Edgar Rice Burroughs" (p. 204). Even though he recognizes at one point that A CANTICLE FOR LEIBOWITZ is concerned with a great cycle of

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destruction and restoration, he earlier equates it with ON THE BEACH as a description of the last days of humanity (pp. 190, 208). The reader's conclusion can only be that he has not read or has misread a good deal of recent s-f.

It should be stated that s-f writers have been and still are thinking to some purpose about warfare, often from the position that aggression is a vital part of human vigor and must be dealt with somehow. The "somehow" is the story. Consider one example: Gordon Dickson's 1964 examination of the place of violence in human civilization, SOLDIER, ASK NOT. Numbers of equally "purposive" novels come out every year.

Clarke's book, then, is valuable until he begins to talk about the recent past. It is distinctly provocative but of limited use to those primarily interested in contemporary writing.

The limitations of Robert Scholes' THE FABULATORS are very different. He is trying to identify a new form the novel has taken instead of analyzing its content. He therefore understands very well that Vonnegut has learned from Swift and Barth from Joyce, but never notices that neither man could have written as he has if Wells, Huxley, Orwell, and C. S. Lewis had not preceded him. So far as s-f is concerned, he has half the story here, but he has it well.

Scholes' exemplary fabulators are Lawrence Durrell, Kurt Vonnegut, Jr., John Hawkes, Iris Murdoch, and John Barth. The word *Fabulator* is resurrected from 15th century usage to describe writers who have gone past the narrow realism of the last century; they have learned from the old and unfashionable techniques of allegory and myth, then invented new forms to hold modern meanings.

Although it was not his intention, Scholes has demonstrated that Iris Murdoch, at least in THE UNICORN, falls within the confines of contemporary s-f. His reading of CAT'S CRADLE is good, even though he probably accepts Vonnegut's weird assertion that he does not write science fiction. On John Barth's GILES GOAT-BOY, he is magnificent. His explication adds tremendously to a work that will need many good readers before it takes its final place in the literary canon.

Judging by the section on Barth, Scholes' reading of Delany's THE EINSTEIN INTERSECTION or Zelazny's THIS IMMORTAL would be valuable. (Professor Scholes, we need you!) THE FABULATORS, by the way, has the best plain prose style of the lot; sentences and meanings fall into your mind as easily as if you had said them yourself.

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For the writing style, Mark R. Hillegas runs a very close second to Scholes, but he could hardly be farther away in content or approach and still write literary criticism. In THE FUTURE AS NIGHTMARE: H. G. WELLS AND THE ANTI-UTOPIANS, Hillegas is specifically concerned with the reactions of writers to other writers' ideas. He knows s-f intimately and intelligently and is straightforward about the existence of the genre. He knows the roots go deep into the pulp magazines, and he doesn't have that half-a-worm-in-my-apple reaction most professors of English have, sometimes hypocritically.

Along the way, he provides little tidbits—as a link between the matter of Swift's Gulliver, Lewis' Oyarsa of Malacandra, and Wells' Cavor (p. 135). However, his real concern is to identify the impact Wells had on later writers of future history. The analysis of Wells' cosmic pessimism is cogent, and the impact he had upon writers like Joseph Conrad as well as upon genre writers is fully demonstrated. Although Hillegas doesn't neglect writers like Blish, Wyndham, and Miller, he draws most of his examples from writers more likely to be known by the average reader—Huxley, Orwell, Bradbury, Vonnegut, Heller. The book stands as good criticism and as a strong attempt to claim the real place of s-f in literature. Hopefully, THE FUTURE AS NIGHTMARE will be followed by THE FUTURE AS DREAM.

If you read any one of these books, read Hillegas; if you read nearly all of them, skip Tarrant's book. It is a literary biography and reasonably competent as such, but very few of us want to know this much about its subject.

JAMES BRANCH CABELL: THE DREAM AND THE REALITY by Desmond Tarrant not only has a full discussion of the famous JURGEN, but goes into detail on over thirty other works. It is possible that Tarrant finds Cabell a better and more important writer than he is, but critics of the last decade or so have probably been underestimating him a bit. Certainly Cabell's romanticism and his use of myth need attention. Reread JURGEN, then decide whether his author is worth the heavy going of a book of standard literary analysis.

Nell Eurich's SCIENCE IN UTOPIA: A MIGHTY DESIGN is heavy going, too; but very definitely worth the trouble. Starting with the earliest ideas of ease and the good life, those Gilgamesh held 4000 years ago, she traces the increasing complexity of human ambitions as far as Dennis Gabor's INVENTING THE FUTURE of 1964.

This book is best seen as a dem-

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onstration of the relation of base technology to the highest dreams. The more men can do with tools and through science, the more they can imagine doing. It is the documentation of human ambition—the "revolution of rising expectations" examined through all recorded history.

If the old quarrel between materialistic and idealistic ethics still goes on, this analysis undercuts both sides of the question. Over and over again, the highest ideal of the last age becomes crude, cheap, even cruel, because new material means have made it possible to imagine new levels of generosity, kindness, and even love.

Eurich's general theme is supported by massive amounts of fact from all over, rich and almost indigestible masses of fact. One reads three pages an hour while volumes of the encyclopedia collect around the chair. Possibly science fiction writers will find it a mine of material; in any case, it's a mind-stretcher for anyone who can wade through it.

—VIRGINIA CAREW

BOOKS RECEIVED

FICTION

MAROONED IN ORBIT, Arthur W. Ballou, Little, Brown 1968, 184 pp., $4.50
FLESH, Philip Jose Farmer, Doubleday 1968, 212 pp., $3.95
THE MERCY MEN, Alan E. Nourse, McKay 1968, 180 pp., $3.95

GENERAL

KAFKA: THE TORMENT OF MAN, R. M. Alberes and Pierre de Boisdeffre, Philosophical Library 1968, 105 pp., $4.75
UFOS — IDENTIFIED, Philip J. Klass, Random House 1968, 290 pp., $6.95

PAPERBACKS

EARTHBLOOD, Keith Laumer and Rosel George Brown, Berkley, 75¢
SURVIVAL MARGIN, Charles Eric Maine, Fawcett Gold Medal, 60¢
THE FINAL PROGRAMME, Michael Moorcock, Avon, 60¢

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"Well, I guess that pretty well takes care of my anemia diagnosis."

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In last month's science column, COUNTING CHROMOSOMES, *Dr. Asimov mentioned the possibility that LSD users may be undergoing the equivalent of a private bath of radiation fallout. Thus the prospects for the children of users are woefully uncertain at this point, which is the point of departure for Dean Koontz's imaginative and far-ranging story.*

THE PSYCHEDELIC CHILDREN

by Dean R. Koontz

HE WOKE EVEN BEFORE SHE and lay listening to the rasping of her breath: seafoam whispering over jagged rocks. It would get worse before she woke. He reached to the nightstand and took a cigarette from the nearly empty pack, lighted it, and sat up. He tried not to think of the energies raging within her mind, of the deadly and painful powers roaring there. In the darkness, he tried to turn his mind to other things.

The view from the window was pleasant, for snow had been falling since suppertime, embracing everything. The clouds parted now and then to let the moon through. It lighted the night, washing onto the white blanket and splashing back. Beyond the hoary willow tree lay the highway, a black slash in the calcimined wonderland. It was obvious that the heater coils in the roadbed had broken down again, for the drifts were edging back onto the hard surface unchecked. Old-fashioned plows were working on things now.

"Ashen dreams fluttering flaked
float peacefully downward
while lightning men with swords
stroke the brain harshly
and draw fingernails
over the ice . . ."

He was not certain whether that was completely senseless or not. It was a mood piece, no doubt. He repeated it softly again. He would have to remember it, polish it—perhaps—for inclusion in his next volume.

Minutes later, he looked back to

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Laurie. Her face was pale, her eyes closed and edged with wrinkles. He ran his hand through the billows of raven hair that cascaded down her pillow. She moaned in answer, the air rushing in and out of her chest. Harder, harder she breathed. Deciding to get a head start this time, he stood and pulled on his trousers, slipped into a banlon shirt.

"Frank?" she said.

"I know."

She slipped out of bed, naked, and dressed in a sheath—a red and black one that he liked.

"I'll pull the car out of the garage," he said.

"The snow—"

"They seem to have it under control. Don't worry. I'll pick you up at the front door in five minutes."

"I love you," she said as he went through the doorway into the shadow-filled living room. That always sent shivers through him: that face, that voice, those words.

He took a flashlight and the gun that lay beside it from the kitchen catchall drawer. Stepping into the glittering night, he stuffed the gun in a jacket pocket and sniffed the cold air. It hurt all the way down into his lungs and woke him all the way up. The path between house and garage was unshoveled; the snow lay a good twelve or fourteen inches deep. He plodded through it, listening to the easy sweep of the wind, the distant moan of heavy machinery battling Nature. The garage door hummed open when it recognized his thumbprint on the lock disc. He crawled into the car, started it, backed out, pushing snow with the rear bumper. He flipped on the front and rear heating bars. With Laurie's problem, he had to be ready to move at any hour, in any weather. The melting bars had been a costly extra, but a necessary one. When he pulled up to the front door, she was waiting. She climbed in, huddled next to him.

"Where to?"

"The country somewhere," she whispered in her tiny voice. "Hurry, please. It's going to be real bad this time."

Melting snow in advance, he drove across the highway into the lane leading away from the city and suburbs. The robo-grid drove for him then while he stroked her forehead and kissed her cheeks, her ears, her neck . . .

Ten minutes later, they were cruising down a ramp, and the red eye winked at him as if to say he must now caress the controls. Somewhere in the bowels of the car a buzzer *bleeped* for the same reason. He turned left along a secondary route that was not nearly so well cleaned as the superhighway. Drifts were clawing at the macadam, choking it to half its normal width in many places. He held the accelerator down and kept the Champion moving.

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She was moaning . . .

This looked bad. She was rapidly reaching the critical point: the moment when the psychic powers reached maximal point of tolerance and exploded violently and deadly. Laurie was an Esper, but it did her no good, for she could not control the power. She could not siphon it off until it reached the critical point, and once it had reached the critical point, there were only moments left to get rid of it.

He was glad he had had the melting bars installed. Someday all cars, he thought, would have them. Then the snow plows and heating coils would both be obsolete. The bars burned away the crystals, evaporating some, melting some and leaving them behind to freeze into ice as the night wind roared in and covered the road in their wake.

"A little further yet," he said.

She whimpered something . . .

He risked a glance away from the road, was shocked—as always—by the white fish-belly color of her beautiful face. It always reminded him of the dead. It always frightened him. "Hold on."

The car skidded sideways without warning. He grabbed desperately at the wheel, then remembered to let the car follow the direction of the slide. They lodged in a drift, and it took the melting bars a few minutes to free them. He went another mile without seeing any houses and—therefore—turned abruptly across what appeared to be a wheat field, flat and snow covered. The bars were burning at full capacity. He took it slow, melting his way toward the edge of the forest which began where the field sloped upward and continued over the rise and into the distance. When they reached the forest's perimeter, he braked, stopped, shut off the lights. They would not be seen from the highway against the black backdrop of trees.

He sat with her at the side of a tree, sat on the snow with her. She had reached the critical point.

"Okay," he said. "There is no one here."

She whimpered again . . .

Her breath rushed out . . .

The snow began to melt around them . . . In two minutes there was a four-foot circle of bare earth. Then there was mud. Then boiling mud . . .

"I remember wall papered parlors
With a grandfather clock that chimed
Like a voice saying I'll give you
A dollar for a dime.

"I recall sun-bleached kitchens
On a then late afternoon,
A hundred thousand fragrances,
My mother's tasting spoon . . ."

He flipped off the recording machine, rewound the tape, removed and packaged it. That was Satur-

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day's show—aired on one hundred and two FM radio stations. Fifteen minutes of poetry and commentary, recital and rebuttal. He was a little bitter about it. He wondered how many really listened and how many only laughed. He suspected that many of the gentler arts were not designed for the mass media. But then, it brought pennies for bread, pennies for lard.

"Frank—" Laurie came into the den, all sweet-smelling in a dress covered with large red apples on a straw background, a red band dipping in and out of her dark hair. "Have you seen this morning's paper?"

He couldn't have missed the headline: HALLUCINO-CHILD BELIEVED TO BE IN AREA. And below that: POLICE BEGIN SEARCH. It told all about the field near Crockerton where the snow had been vaporized, the earth boiled and glazed, the trees splintered and charred. It told how there was only one thing that could have done all that. And they were searching for the hallucino-child.

"Don't worry," he said.

"But they say the police are searching outward on a ten mile radius."

He pulled her down on his lap and kissed her. "And what can they find? I'm a poet who contributes well to the party in power; the party in power is very anti-Esper. We live normal lives. We have never once voiced disapproval over the punishment of captured hallucino-children."

"Just the same," she said, "I'll worry."

So would he.

Until noon. That is when the police came.

They stood watching through the porthole in the front door as the police approached the house. "It's just a question party. Only routine investigators following routine procedures," he said.

She was trembling just the same. She retreated to the kitchen.

He waited for two knocks before he opened the door. He did not want to appear too anxious, and he needed those extra few seconds to paint a false smile on his face. "Yes?"

"Police Inspector Jameson and android assistant T," the dark-eyed detective said, motioning to the parody of a man beside him.

"Oh, this must be about the hallucino-child in the papers. Come in, inspector."

He led them into the den. The inspector and he sat, but T remained standing. The snowflakes that had fallen on his metal hide were melting and dropping onto the carpet after cutting wet swaths across the "skin" of his face to the precipice of his chin.

"Nice place you have here, Mr. Cauvell."

"Thank you."

"This where you write poems?"

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Cauvell looked to the desk, nodded.

"I'm a fan of yours. Though I must say I don't often like those unrhymed ones."

He breathed more easily. The man was certainly not a forceful, probing, hard policeman. He seemed rather meek, in fact. *Why,* Cauvell thought, *he can't even meet my eyes directly. . . .*

"Is your wife—Mrs. Cauvell—at home?"

His heart jumped a little, but he did not hesitate. "Yes, she is. Laurie!" he shouted, perhaps a bit too loud. "Laurie!"

She came in from the kitchen and stood next to his chair, eyeing the android suspiciously. Too suspiciously, Cauvell was afraid. Would T notice and become suspicious of her suspicion?

"Please sit down, Mrs. Cauvell," Jameson said. He addressed both of them then. "We are running a survey of the neighborhood and would like to ask you both a few questions."

They both nodded.

"T," Jameson said.

The android's throat seemed to hum for a moment; then a deep, hoarse voice groaned from a plate in the lower portion of his neck. THIS INTERVIEW IS BEING RECORDED. ARE YOU AWARE OF THIS, MR. AND MRS. FRANK CAUVELL?

"Yes," they answered ceremoniously.

ALL INFORMATION RECORDED MAY BE USED IN A COURT OF LAW. ARE YOU AWARE OF THIS MR. AND MRS. CAUVELL?

"Yes."

THIS IS ANDROID T OF CITY DIVISION COOPERATING WITH INSPECTOR HAROLD JAMESON. MR. CAUVELL, A HALLUCINO-CHILD IS A PERSON BORN OF PARENTS WHOSE GENES WERE ALTERED BY THEIR USE OF LSD-25. THESE CHILDREN BECOME EITHER PHYSICAL FREAKS OR MENTAL FREAKS. DO YOU UNDERSTAND THE USE OF THE TERM HALLUCINO-CHILD?

"Yes."

AND YOU MRS. CAUVELL?

"I do."

THE PHYSICAL FREAKS ARE CARED FOR BY THE GOVERNMENT. THE HALLUCINO-CHILDREN WHO ARE BORN WITH THE CONGENITAL DEFECT OF ESP SENSITIVITY ARE A DANGER TO THE STATE AND CANNOT BE AFFORDED FULL CITIZENSHIP. BECAUSE OF THE NATURE OF THEIR POWER—WHICH CAN ONLY BE STUDIED AT THE CRITICAL POINT AND WHICH IS TOO DANGEROUS AT THE CRITICAL POINT TO STUDY—MANY OF THESE MUTANTS MUST BE PUT TO SLEEP, HUMANELY. DO YOU UNDERSTAND THIS, MR. AND MRS. CAUVELL?

They said that they did. The formalities were over.

WE HAVE REASON TO BELIEVE

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THERE IS A HALLUCINO-CHILD IN THIS VICINITY. HAVE EITHER OF YOU KNOWLEDGE OF SAID PERSON?

They said no.

DID EITHER OF YOU LEAVE THE HOUSE LAST NIGHT?

"No."

The question suddenly became very pointed. THEN HOW DID THE DRIVEWAY AND ENTRANCE TO THE SUPERHIGHWAY BECOME CLEARED?

"We noticed as we came in," Jameson said, "that your driveway seems to have been cleared by melting bars."

"I went out this morning for a few groceries," Cauvell answered a bit too quickly.

"You do your own shopping?" Jameson asked, raising his eyebrows.

"Yes." Cauvell was suddenly glad that he had never gone completely modern. Less than a fifth of the population did their own grocery shopping in person anymore. The banks of robot clerks that took the orders by phone had more-or-less depersonalized food purchasing. Cauvell, however, had always liked to see the steak before he bought it. Perhaps it was his picky appetite.

MRS. CAUVELL'S FATHER WAS A COLLEGE PROFESSOR, T said gratingly. THE COLLEGE INSTRUCTORS OF THE SIXTIES AND SEVENTIES WERE OFTEN QUITE LIBERAL AND AS ANXIOUS AS THEIR STUDENTS TO EXPERIMENT. MRS. CAUVELL, DID YOUR FATHER TAKE LSD-25?

They had prepared themselves, long ago, for the possibility of questions like these. And they had agreed that a little bit of the truth would be better than a complete lie. "I believe he tried it twice with bad experiences both times," Laurie said.

Cauvell was proud of her firm, unshaken answers.

HE WAS NOT A REGULAR USER?

"No."

"How can you be so certain, my dear?" Jameson asked kindly.

Cauvell realized that Jameson was anything but stupid, anything but meek. He was T's straight man, but some of his own lines hit the mark close to center.

"My mother told me," Laurie said. "My father died when I was seven. My mother spent the rest of her life telling me about everything he did. I heard all the stories a thousand times. I couldn't forget them. He took LSD twice and had bad trips both times."

WHICH PARTY DO YOU BELONG TO? T asked.

"The party in power for the last thirteen years. The Constitutional Tolerant Party." Cauvell tried to force pride into his voice while he forced his gorge down.

AND WHY DID YOU JOIN THE PARTY?

"Because we feared the Com-

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munist countries and realized the subversive trends within our own society must stop."

AND YOU HAVE SEEN NOR HEARD NOTHING OF THE HALLUCINO-CHILD?

"Nothing."

WAS THIS INTERVIEW RECORDED WITH YOUR KNOWLEDGE, MR. AND MRS. FRANK CAUVELL?

They said that it was.

The android's voice clicked off, its throat humming for a moment before going tomb silent. Inspector Jameson got to his feet. "Sorry to inconvenience you. It has been a pleasure. Thank you for cooperating."

"Only too happy," Frank said.

"Hope you find the mutant," Laurie said.

They watched through the porthole as the inspector and the android stepped into the police car and pulled onto the highway, growing smaller, smaller, and disappearing in the distance.

From the looks of the sky, it was going to snow again.

Somewhere a mutated boy hid, shivering.

Some unbearable moment, his nerves split; he ran.

He ran right into the arms of the android. The eyes of the metal man were jewels, even as the tears on his own cheeks frosted into diamonds. He backed away, but there were others behind him. There was no place to go.

He unleashed the psychic forces at them, watched them go up in flames, watched their faces melt, watched their insides smoke.

But there were more of them. And they would not wait. Nozzles opened on their hips. Fire sprayed; flames engulfed him, swallowed, digested him.

All the while the snow fell . . . little white bullets . . .

"They got some poor devil," Laurie said, handing him the paper.

He looked at it, grimaced. HALLUCINO-CHILD FIGHTS IT OUT WITH POLICE. Not "fights it out with *robots*," for that was too crude. That would make the entire thing seem pro-mutant. Cauvell wagered a live cop had not come within a hundred yards of the boy.

"It's my fault," Laurie said.

"That's absurd! How could it possibly be your fault?"

"We were too open. We left a trail or clues, at least, that made them search."

"And it was an emergency," he argued. "You'd have blasted the both of us to kingdom come if you had tried to hold back that force any longer."

"Just the same, they might not have flushed the boy out if we—"

"Forget it. What's for supper?"

"Spaghetti."

The next night it was pork chops. The next night, meat loaf. The night after that, he woke up to her heavy breathing.

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"Laurie?"

Her eyes were open. "Yes?"

"Why didn't you wake me?" He got out of bed, began to dress.

"Frank?"

"What? Hurry and get your clothes on."

"Frank, maybe it would be a lot better if I just let it kill me."

He stopped tucking his shirt in and turned around to face her. He could see only the vague outline of her small but womanly body outlined by the sheet, her hair like spun silk . . . He crossed to her and lifted her head up. "What is that supposed to mean?"

She was crying.

"Don't you love me?" he asked.

She tried to answer, but the words were sobs.

"Then get the hell dressed," he said gently.

And he left. In the kitchen, he took the gun from the drawer. Outside, the sky was clear; the wind was stiff, whipping the snow into a frenzy. When he brought the car to the front door, she was waiting.

"Where will we go?" she asked.

"Farther out than before. And we will cover well."

Christmas was coming.

He thought about that as he drove. He thought about parties and eggnog, church services, candles on altars, candles in windows. He thought about Christ climbing down from his bare tree and wondered what Ferlinghetti would have written had he lived in the present and been married to a hallucinochild.

Far out in the country, he angled the Champion onto a side road, cruised along it for a time, broke off the road into a wide trench that petered out into woods at a clearing in the center of the forest. They were three miles from a road, sheltered on all sides by trees, exposed only directly overhead where the clearing allowed the stars to look down. When they got out, they heard the helicopter whining somewhere above them.

Then the sun came on. The copter settled into the clearing, its headlamps like the eyes of some tremendous moth, its rotors like wings.

"Frank!"

He grabbed her, pulled her back into the car, scrambled behind the wheel.

PLEASE DO NOT ATTEMPT TO ESCAPE. It was the voice of T.

He would have to reverse out of there, which would be a disastrous undertaking in this rugged terrain. Or he would have to push through them. Jameson, T, and another android labeled JJK were crossing the hoary field, legs frosted with snow, weapons drawn. He rolled down the window. "What do you want?"

"If you bought groceries that morning, Mr. Cauvell," Jameson said between breaths, "why did no grocer within fifty miles have a record of your personal purchase?"

T was twenty feet away, directly in front of the car.

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He slammed down on the accelerator, flipped the melting bars to full power, felt the jolt when T went under the wheels, as the second android was struck a glancing blow that tore its arm off. The engine was whining. He could not make a swift escape through the drifts, for the melting bars would not be able to work fast enough. He wrenched the wheel to the left, spun the Champion around, and shot back along the trail he had burned into the clearing in the first place. He passed Jameson who leaped out of his way. The two androids were lifeless.

"We're free!" he shouted excitedly.

The vibra-beam sliced a neat hole through the rear window and struck Laurie on the temple. She slumped across him, dribbling blood from one ear . . .

He could personify the moon: *the moon peered down patronizingly.* He could make a girl into a rose: *she was a rose, soft and gentle.* He could forge metaphors, hammer out similes; he could allocate so much alliteration to just so many lines. But he could not stop the bleeding from her ear.

He could rise up in the morning like a dragon from the sea.

With the sun over his shoulder, he could warp words to say his thoughts.

He could lie down at night, satisfied as a god must be.

But stopping the blood was beyond his powers.

She was stretched across the back seat, face up, pale and ghostly in what little moonlight filtered through the tinted windows. Cauvell lashed himself into the bucket seat, gripped the wheel viciously. Where to? How long would he have until all roads were blocked? The forest clearing was fifteen miles behind, but the world had shrunk to the size of an orange in recent years, and fifteen miles was hardly the length of one seed. The thing, perhaps, was to find a small town and—with the gun—force a doctor to care for her. Hide the Champion in the doctor's garage. He turned the engine over, wheeled into the twisting lane, and spun his wheels over the snow.

Thin rust trickled from her ear—liquid.

Caldwell twenty-six miles . . .

Caldwell nineteen miles . . .

He was ten miles from Caldwell when the helicopter fluttered over the tree tops that sheltered much of the road. The car was bathed in sickly yellow light. He swerved left, right, darting out of the beam. But they broadened the shaft and covered both lanes with it. Bullets cut up the pavement in front of him. One *pinged* off the hood. A few vibra-beams sent little sections of the pavement boiling. Then, abruptly, there was darkness and no helicopter.

Slowing, he rolled down the win-

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dow, listened. No *whupa-whupa* of fiercely beating blades. It was gone. It vanished; it did not simply drift away. Perhaps it had crashed. Yet there was no explosion, no crashing sound. He rolled the window up and drove on. They had spotted him near Caldwell, and he must bypass that town now. Forty miles away lay Steepleton.

He looked over the seat, felt his stomach flop at the sight of her, comatose and pale-dark. He pressed down on the accelerator.

Steepleton thirty-two miles . . .

Steepleton twenty-four miles . . .

At the boundaries of Steepleton there was a roadblock. Seven men, seven androids. And they knew damn well whose car was coming; they had their weapons raised . . .

Death is not something that creeps about in black robes, slavering. Death cannot be seen . . .

It can't!

And yet his world was a graveyard. The moon rode high above clouds like pieces of torn shrouds flapping madly to the tune of the winds in the dead trees. He struggled up the hill in the cold air, the wind-born explosions of snow forcing him to squint.

"Good evening," said the mortician.

He said good evening. . .

"Dust to dust," the embalmer said from his perch atop a monument steeple.

"Ashes to ashes," said the sexton.

He ignored all of them. He pushed onward, toward the summit of the hill where the sepulcher bit at the sky, a broken tooth. Somewhere a muffled drum. Somewhere a passing bell . . .

He pushed his shoulder against the stone door, felt the rusted hinges move a bit, heard them squeak, heard the rats run inside. Stepping in, the moonlight flooding in behind him, he advanced to the sarcophagus. They had buried her in a limestone coffin, for that facilitated the rotting of the corpse. Somehow, that filled him with rage. He thrust the immensely heavy lid free, looked down at her pale face. Gently—oh! so gently—he lifted her out, placed her upon the marble slab where no coffin yet lay.

Somewhere a tolling—in reverse; somewhere a dirge is sung backwards.

And he would sing the oration; he would make with panegyrics . . .

"For the Moon never beams
without bringing me
dreams
Of the beautiful Annabel Lee;
And the stars never rise but I see
the bright eyes
Of the beautiful Annabel Lee;
And so, all the night-tide, I lie
down by the side
Of my darling, my darling, my
life and my bride,
In her sepulcher there by the
sea—
In her tomb by . . ."

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He was three miles past Steepleton. And there were no guards . . .

He pulled the car off the road and sat thinking for a time. Was his mind leaving him? There had been guards and a roadblock back there, had there not? Which was real, the police or the graveyard world? The police, certainly. He was no E.A. Poe who slept with his dead mistress. Besides, his mistress was not dead. He turned to look at her. Her face had become wrinkled as if she were in pain. He called her name. For a brief second, he thought she answered. But her lips had not moved. He turned back and faced front. It was ten miles to Kingsmir. What would happen there? Would the graveyard delusion come back? Would there be further oddities? He suddenly remembered the disappearance of the helicopter and shuddered. Pulling back onto the road . . .

. . . He woke and kissed her on the neck.

Her black-black hair spilled down her bare shoulders, over her bare breasts, curled under her pink ears . . .

She kissed him back . . .

And then she was lying in a limestone casket . . . Then warm and alive . . . then cold and rotting . . . A helicopter fluttered again . . . A helicopter blinked out of existence in a world where men had suddenly never learned to fly . . . Then it was back again, chasing after quarry that had gone long ago when the world had been different for a few moments . . .

Tombstones . . .

Blink!

A warm bed, warm bodies . . .

Blink!

Blink! Blink!

He woke up two miles closer to Kingsmir. And he knew! He pulled the Champion onto the berm and crawled between the bucket seats to where she lay. He ran his fingers over her face, trailed them under her chin, felt the blood pulsing in her neck. Laurie was changing reality! Somehow, comatose as she was, the psychic powers were siphoning themselves off instead of exploding violently. They were under control! And they were not merely powers of teleportation and mind reading; they were powers that could change the basic fiber of the universe. He had thought he imagined her answering him a while back; now he knew she *had* answered. There had been no need of lips.

"Laurie, can you hear me?"

There was the distant answer that he had to strain to hear.

"Laurie, you heard the helicopter, sensed the guards and the roadblock. And you changed reality for a while until the car—moving independent of *both* worlds—had passed the trouble spot. Isn't that what you did, Laurie?"

A distant yes.

"Listen, Laurie. The graveyard

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is all wrong. Poetic as hell, but wrong. The other one. The one where we are in bed, Laurie." He stroked her chin. He kissed her lips and urged her to concentrate. He heard the sirens on the road and talked faster . . .

He talked of a world where there had never been hallucino-children. He spoke of a world where all were normal . . .

He woke before she did and lay listening to the rasping of her breath: seafoam whispering over jagged rocks. It would get worse before she woke.

The view from the window was pleasant. It had been snowing since suppertime. Beyond the hoary willow tree lay the highway, a black slash in the calcimined wonderland. They were plowing the road, for the heating coils had broken down again. Somehow, he felt that he had seen it all before. Everything was like an echo being relived.

"Glittering dreams fluttering flaked
float softly downward
while snow priests prepare
for fairy cotillions . . ."

He was not sure whether that was senseless or not. And even the poem seemed naggling familiar. He repeated it softly.

"Frank?" she said.

"I know."

"Soon."

"I'll pull the car out of the garage."

"The snow—"

"They seem to have it under control," he said, feeling as if he had said the same thing once before.

"I love you," she said as he went through the doorway into the shadow-filled living room. That always sent shivers through him—that face, that voice, those words. The shiver continued, however, rippling over his spine, quaking across his forehead, spreading to nearly every nerve in his body. What was he frightened of? And what was this feeling of familiarity all about? He was more than normally afraid for Laurie. After all, she was only pregnant. Suddenly, he hoped to hell it would be a girl. And then the shivers were gone as he rushed for the car. He was warm, the world was wonderful, and there was no longer a sense of familiarity. Suddenly things were very much different and very new indeed.

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In which the Good Doctor considers—with fine logic and good humor—the reverse side of a coin on which is inscribed a line from a popular song: i.e., "How do you speak to an angel?"

KEY ITEM

by Isaac Asimov

JACK WEAVER CAME OUT OF the vitals of Multivac looking utterly worn and disgusted.

From the stool, where he maintained his own stolid watch, Todd Nemerson said, "Nothing?"

"Nothing," said Weaver. "Nothing, nothing, nothing. No one can find anything wrong with it."

"Except that it won't work, you mean."

Weaver frowned. "You're no help. Sitting there!"

"I'm thinking," said Nemerson quietly.

"Thinking!"

Nemerson stirred impatiently on his stool. "Why not? There are six teams of computer technologists roaming around in the corridors of Multivac. They haven't come up with anything in three days. Can't you spare one person to think?"

"It won't help us to think. We've got to *look*. Somewhere a relay is stuck."

"It's not that simple, Jack!"

"Who says it's simple. You know how many million relays we have there?"

"That doesn't matter. If it were just a relay, Multivac would have alternate circuits, devices for locating the flaw, and facilities to repair or replace the ailing part. The trouble is that Multivac won't just fail to answer the original question; it won't tell us what's wrong with it, either. —And

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meanwhile, there's going to be panic in every city if we don't do something. The world's economy depends on Multivac, and everyone knows that."

"I know it, too. But what's there to do?"

"I told you, *think.* There must be something we're missing completely. Look, Jack, there isn't a computer scientist in a hundred years who hasn't devoted himself to making Multivac more complex. It can do so much now—Hell, it can even talk and listen. It's practically as complex as the human brain. We can't understand the human brain in all its aspects, so why should we expect to understand Multivac?"

"Are you saying Multivac is human?" There was no mistaking the derision in his voice.

Nemerson did not react. He said, mildly, "Why not? Could we tell if Multivac passed the thin dividing line that separates a computer from a human brain? Is there a dividing line, for that matter? If the brain is just more complex than Multivac in degree and not different in kind, and if we keep making Multivac more complex, isn't there a point where—"

Weaver said impatiently, "All right, suppose Multivac were human in complexity. How would that help us find out why it isn't working? It would just be all the worse."

"Would it? We might be able to look for a human reason. Suppose *you* were asked the most probable price of wheat next summer and didn't answer. Why wouldn't you answer?"

"Because I wouldn't know. But Multivac *would* know! We've given it all the factors. It can analyze futures in weather, politics and economics. We know it can. It's done it before."

"All right. Suppose I asked a question and you knew the answer but wouldn't tell me. Why not?"

Weaver snarled, "Because I had a brain tumor. Because I had been knocked out. Because I was drunk. Damn it, because my machinery was out of order. That's just what we're trying to find out about Multivac. We're looking for the place where its machinery is out of order, for the key item that went wrong."

"Only you haven't found it." Nemerson got off his stool. "Listen, ask me the question Multivac stalled on."

"How? Shall I run the tape through you?"

"Come on, Jack. Give me the talk that went along with it. You do talk to Multivac, don't you?"

"I've got to. Therapy."

"For whom? For you? That's the official story, isn't it? Computer programmers talk to Multivac in order to pretend it's a human being so that they don't get neurotic over having a machine know so much more than they do.

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By talking to it, a frightening metal monster is turned into a protective father-image."

"So?"

"So I wonder if that's right. Perhaps the therapy is for Multivac. A computer as complex as Multivac *must* talk and listen to be efficient. Just putting in and taking out coded dots isn't sufficient. At a certain level of complexity, Multivac must be made to seem human because it *is* human. Come on, Jack, ask me the question. I want to see my reaction to it."

Jack Weaver flushed. "This is silly."

"Come on, will you?"

It was a measure of Weaver's depression and desperation that he acceded. Half sullenly, he pretended to be feeding the program into Multivac, speaking as he did so in his usual manner. He commented on the latest information concerning farm unrest, talked about the new equations describing jet stream contortions, lectured on the solar constant.

He began stiffly enough, but warmed to this task out of long habit, and when the last of the program was slammed home, he almost closed contact with a physical snap at Todd Nemerson's waist.

He ended briskly, "All right, now. Work that out and give us the answer pronto."

For a moment, having done, Jack Weaver stood there, nostrils flaring, as though he were feeling once more the excitement of throwing into action the most gigantic and glorious machine ever put together by the mind and hands of man.

Then he remembered and muttered, "All right. That's it."

Nemerson said, "At last I know now why *I* wouldn't answer, so let's try something on Multivac. Look, clear Multivac; make sure the investigators have their paws off it. Then run the program into it once again but let me do the talking. Just once."

Weaver shrugged and turned to Multivac's control wall, filled with its somber unwinking dials and lights. Slowly, he cleared it. One by one he ordered the teams away.

Then, with a deep breath, he began once more and fed the program into Multivac. It was the twelfth time all told, the dozenth time. Somewhere, a distant news commentator would spread the word that they were trying again. All over the world a Multivac-dependent people would be holding its collective breath.

Nemerson talked as Weaver fed the data silently. He talked diffidently, trying to remember what it was that Weaver had said, but waiting for the moment when the key item might be added.

Weaver was done, and now a note of tension was in Nemerson's voice. He said, "All right now. Work that out and give us the an-

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swer." He paused, and with heart suddenly racing, added the key item. *"Please!"*

And all over Multivac, the valves and relays went joyously to work.

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Larry Brody (DEMON, *April 1968*) *returns with a story about Jarvis Raal, the end product of a half century of experimentation in the creation of life. He was the first man-made man; he was perfect—was he also a murderer?*

ULTIMATE DEFENSE

by Larry Brody

NOPARSTACK CALLED, FLASHED me a blue smile, and started to talk.

Most lawyers get cases.

I just get problems.

Noparstack's my associate, which is a fancy name for clerk, and he does all my research. Sometimes, though, I let him out of the office and into the world. Usually when there's no choice, like today.

It was his turn to Mirandy, which, if you don't know, means he had to waste a day cruising around in a police chopper letting them know when they could grab and when they couldn't and advising the bad guys about their rights and privileges and such. It's a good service, a necessary one, I suppose, and it gives everybody a lot of protection.

Only it's all for free.

And I still had to give him a day's pay.

"I've got a problem," Noparstack told me over the vid. He's a big burly kid who looks a lot like something you dream about and try to forget, and he wears big round old-fashioned eyeglasses so he'll seem more scholarly. He was Law Review and all that, and he knows as much law as anyone else just out of school—and probably more than I do.

And nothing about being a lawyer.

"I've got a problem," he said again, scratching his hairy neck. "We picked up a murder suspect, practically caught him in the act. Brought him right to the station."

He likes to play these little

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games, thinks it's dramatic. Maybe no one ever told him lawyers are supposed to be concise. "Oh?" I said, and dreams of indigent clients danced in my head.

"I'm the only one who's talked with him."

"So?" He was leading up to something, all right.

And with him that meant trouble.

"I think he's innocent."

"Right. Practically caught him in the act but he's innocent. Fine, defend him on your own time and plead insanity. Look, I've got *work* to do."

Noparstack shook his head. "I can't defend him, Jefferson. I don't know how. You see—" he paused here for effect, but I reached out to break the contact, and he said hurriedly, "—it's *Jarvis Raal* we picked up." He shook his head some more.

Jarvis Raal. Tall. Narrow. Not quite handsome. *Alien*. The beautiful voice with the inhuman grace.

Jarvis Raal. Missing for close to a month. Fantastic searches underway.

Jarvis Raal and a murder case. I thought of the Institute and all its beautifully bonded backers. And how desperate they'd be.

"What should I do?" Noparstack said.

"Has anyone told the Institute?"

"Not yet."

"No reporters?"

"Not yet."

"Then sign him up," I said. "I'll be right there."

Preebs, my sec, got me a cab, and in just a few minutes I sat in the interrogation room with Noparstack, a policepsych from Uganda named Davis, and Jarvis Raal.

Now I'm not a bigot. History gives me the right, but society hasn't let me have the time. Still, Raal made me uneasy.

He just wasn't right.

It was more than his thinness (I'm getting paunchy, I admit), more than his pale, pale skin, blue eyes, and hair that was almost white. I'd seen him perform and had never liked him. He moved wrong. He moved like a cat instead of a man, like he had ball bearings where there should have been hinges.

He didn't have them, of course. He was perfect.

You know about Raal. He was born in a nice cozy nutrient bath, the end product of a half century of experimentation in the creation of life. They'd gone from microscopic specks of DNA to tiny one-celled beings to multicellular lumps of flesh. And from there to Jarvis Raal, the first man-made man.

His ancestry was impressive, I suppose. Only the finest, the highest, the humanest genes were selected and very carefully, like cof-

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fee beans, blended and somehow imprinted to produce his perfection. According to the Institute, Raal had the potential to be anything he wanted.

He wanted to sing.

Everybody said, "How tragic," and everybody identified like mad. There's something about *waste*. It took away the threat. Raal was wasting his life, and that made him just fine.

He didn't compose. He didn't play an instrument. He didn't even have any snappy patter. All he did was take the old songs and sing them just a little better than anybody else. He sang from his guts instead of just his mouth, and audiences admired him just enough.

Because Raal was a test, and if he worked out, there'd be more of his kind. Until today it'd looked like there'd be more.

But if he were a murderer—

The Institute could be very generous.

"He signed," Noparstack whispered to me as the questioning was about to begin. "I convinced him you'd be more sympathetic."

"Exclusive then?"

He nodded. "Standard contingency. Amount to be filled in later by the Institute."

That was fine. If we got him off, we got paid. If not—well, I'd try not to spend too much on the case.

Raal sat at my other side, looking very calm. He needed a shave, and his clothes smelled. "Just do what I say," I told him, and he nodded.

"The recorder's on," Davis said, "so we might as well begin." He was light-skinned but wore the same kind of dangling jewelry I did, and his robe was almost as bright.

I wondered why he hadn't discarded the slave name. Maybe it was the same kind of reverse pride that'd made me keep mine.

"Where've you been these past weeks?" Davis asked Raal.

Raal looked at me for his cue, and I shook my head. "Number five," I said.

Davis nodded. "What were you doing in the lobby this morning?"

"Number five," I repeated.

Another nod. Davis was experienced. "Were you acquainted with the dead man?"

"That's a five."

"I don't say *anything*?" Raal whispered.

"You don't want to," I said.

Davis began, "Did you—"

"I think that's enough," I said. "We've established his refusal to answer anything, and you've showed that you tried. Three's enough to satisfy everything."

"I'd like to get one more," Davis said.

"He declines to answer."

Davis shrugged. "All right," and he gathered up his things.

"You go back to Raal's cell with

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him," I told Noparstack, I had to see about bond.

The door opened, and a guard stuck his head into the room. "Guys from the Institute're here," he said, winking. Noparstack had paid him to hold off their call. The kid was learning.

The three Institute lawyers walked in, led by Miles Ludovico, an old friend I owed a lot of favors. "Good morning, Counselor," I said. "You missed all the action."

"Damn you, Jefferson," said Miles.

The bond hearing could wait awhile. We went to talk about money.

I no-commented the newsstat boys, argued with Miles about my fee. When we finished, he was calling me Jeff and promising to give all the help I needed.

He certainly should have. Because Miles stood to get almost as much out of this as I did. For the *referral,* you understand.

And I was dreaming of retirement.

It took a not so small fortune in Institute money (some of it even went to the Court), but finally Raal was released to me. I kept him in my apartment while I worked on some other things, and when Noparstack got through with the rest of his little cruise around the city, the three of us met at the office.

My office is carpeted with grass and tropical flowers, the African motif and all, and the hanging chairs are only slightly more comfortable than they appear. Everyone sits in them and squirms and tries not to look like a monkey.

Some never succeed.

Preebs, who is middle-aged, blonde, lanky, and almost appallingly good-natured, stayed late, serving us "sugar" and smiling at Raal and occasionally taking notes.

Fortunately the robo-sec was on.

"There isn't very much to tell," Raal said when we'd settled down, and Noparstack hunched forward to hear better, licking his cube like an ape tasting ice.

Raal frowned. Cleaned up and wearing an old red robe of mine, he looked almost human, and I was surprised at how young he was. He rolled the narcotic cube under his tongue, then pushed it against his cheek, and when I gestured impatiently, he started to explain.

"I suppose I'm a fraud," he said and told us what many had already suspected. He sang because it was relatively valueless and gained him some acceptance. "And that's all that was needed for a first stage.

"It's not a fantastically clever idea," he went on, "but then I was very young when the Institute put me on my own, kicking me out and warning the world I was coming, and this is what I came up with. And then I had to stick with it.

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"The trouble," Raal said, was that to those who suspected the truth he was still a rival, a greater danger than ever, while to those who didn't, "I'm nothing but a cute toy, something to be entertained by and to cluck over." There'd been no real understanding.

And his upcoming trial wouldn't help.

He spoke smoothly, as if he'd rehearsed his lines, and in a way he had. He'd been thinking about nothing but this for almost a month.

"It was after a performance here," he said. "I sweated, the audience applauded, and the musicians all sneered." He shook his head. "I had to get out."

He took a cab and rode around for awhile like anybody feeling sorry for himself, and finally he had the driver take him to a cheap chopper hostel. "Went in with my cloak swirled, my arm raised, and my face turned like a video-fugitive and got myself a room where I lived until today."

"Lived doing what?"

"Deciding," he said, but he didn't say what. "Eventually the manager became suspicious and the rates went up. Then he figured out just who I was, and I had to pay a little more." The manager would come into his room and look at him, smile a little, and leave, "still smiling."

"And the killing?"

"The killing." Raal paused, cleared his throat. Then he spoke rapidly. "By this morning I was as ready to leave as I'd ever be, and at ten-thirty or so, I glided up to the lobby to call a cab. As I got to the top I heard a chopper take off, and when I looked out, the place was almost empty."

"Almost?"

"The manager, Reynolds, lay on his back on the floor in the center of the room, and there was a pellet tube beside him. I bent down to see if he was all right, and then the police came." He indicated Noparstack, who took it from there.

"We found him kneeling by the body," Noparstack said, "exactly fifteen seconds after the 'scam said a crime of violence had been committed. He was the one and only suspect and was taken right in. You know how it works."

I hoped so. I'd been practicing for twenty-five years. "He wasn't touching the tube, was he?"

"No," they both said, almost in concert, and Raal looked indignant.

"Mmm. And what about this other chopper he says he heard?"

"There was a lot of traffic in the area, but at the time nothing was pinpointed as having come from the hostel. Still, I think something could have."

We'd have to check the traffic control tapes. I asked about a few more things, then: "This is exactly what Raal told you in the station?"

"Right." Noparstack nodded.

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And in that case I had only one more question. I thought about a mystery chopper and fifteen seconds and sighed.

And asked myself how I could ever have taken this case.

Newsstats aren't supposed to get the names of suspects in major cases, but they always do and the next day they had Raal's. Most reacted pretty rationally, although there were still quite a few editorials which were perfect examples of the Frankenstein syndrome.

Would you want your daughter to marry a golem?

More Institute stock was traded that day than ever before, and the price was down. 'Way down.

People were afraid.

I think I was too.

But Raal stayed relaxed, and I tried to convince myself he was too intelligent to make up as bad a story as the one he'd told, and I thought of all the money.

I gave my client to Miles to hide in case of any trouble and started working. Noparstack went to the traffic bureau to look through the tapes, and I headed for the hostel. The police investigators were still there, and I incurred the case's first big personal expense getting in for a look.

A nice big smile just isn't enough, you see.

It was a small place. The landing strip was very narrow and adjoined a bubble-enclosed lobby, and the rooms were down below like in any hostel. I looked at the chalk marks that showed where the body, the tube, and Raal had been found, took the intraglide down to Raal's tenth floor room, timed the trip back up, and left for central police headquarters.

The chief 'vest on the case was a short fat character named Hull, and we hadn't gotten along ever since I'd queered another case for him, maybe costing him a captaincy. He didn't bother standing or shaking hands when I entered his office but just nodded and pointed to a pile of material on his desk.

"That's for you," he said. "We do the work, and you defense lawyers just walk in and pick our brains."

I sat down. "The world's filled with injustice, eh? Everything's here?"

"We play fair, Jefferson, even with you. All the lab reports, tapes of the interviews with the guests at the hostel. Most of them say they were in their rooms at the time, and of course no one saw or heard anything."

"Too bad."

"Only for you." He rubbed the scraggly beard he seemed to be trying to grow. "We've got the time sequence, don't forget."

"There's a margin of error there. Besides, no motive."

"Oh? I don't know. Who can tell how that guy's inhuman mind works?"

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"You know, someone once said that about my father. He was a kid, and they'd chained him to a tree and were having a little fun getting a confession to a crime that hadn't been committed. He used to laugh a lot when he told the story."

Hull glared at me. "Just take the stuff and go," he said curtly.

I wasn't ready yet. I asked him about the guests who hadn't been in the building last night. "Did your people get to them?"

"Working on it now. Don't worry, you'll get the results as soon as they come in."

"Anyone of them could have done it," I said. "Or someone who never even registered."

"My mother could have done it, too." Hull's mouth twisted into a mocking smile. "But it's not her they found at the scene."

"Raal never touched the tube."

"That's not what the lab says." And Hull began to laugh.

Very loudly.

All I could do was stare.

And think of Noparstack and that first vid call. And how I'd let his father pressure me into taking the kid on. I hoped Noparstack's old man hadn't gotten too used to his son paying his own way.

The theory behind contingency contracts is that you'll work harder if you've got something to lose. All that really happens is that you ignore your smaller cases and concentrate on the bigger ones. And give up on the losers before you've invested too much.

I sat in my office and clenched my fists and looked out into the darkness. I considered the probabilities.

The police lab report showed that no fingerprints had been found at the trigger end of the murder tube. But partial prints matching Raal's were discovered along the barrel near where the pellets came out.

Raal's explanation was that his hand must have brushed against it when he squatted by the body. "I rested one hand on the ground," he said when I confronted him.

I didn't believe it.

To make things worse, the police had seized the traffic vistapes and Noparstack had done nothing but talk to Preebs all day.

Not that I expected him to find us any new suspects anyway.

See what I meant before about problems?

But I wrapped my robe around myself and went back to the hostel, paid the "entry fee," and started dusting near the chalk marks. If Raal was playing it straight, there'd be some partial prints on the floor near where the tube had been, prints that could be fitted with those on the barrel.

There weren't any.

I imagined myself telling a jury they'd been there but had been rubbed out, and I shuddered.

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I prowled around the place all night, finding nothing I could use, then spent the next morning talking to some of the quarantined guests, the ones whose stories hadn't seemed quite right.

My change purse emptied, and their minds stayed blank.

Then, about noon, Noparstack found me.

"I saw the tapes," he said, "and I may have found something." And we raced over to traffic control.

He worked the projector while I sat in a hard chair and watched. On the left side of the screen ran a thin strip with the time on it, calibrated in hours, minutes, and seconds. The rest of the screen showed the view from the traffic platform nearest the hostel.

The tape started at ten-twenty and no seconds. I located the hostel and sat forward on the unyielding rubber. Choppers floated by in slow motion, and time dragged on. Then it was ten-twenty and thirty seconds.

"Watch carefully," said Noparstack.

A chopper hovered above the hostel, dropped slowly, and Noparstack increased the magnification. At ten-twenty and forty-nine seconds it touched down and a tiny blurred figure emerged, disappearing into the bubble. Four minutes later it reappeared, and at ten-twenty-five and thirty-three seconds the chopper began to rise.

The murder had occurred at approximately ten-twenty-seven and forty seconds.

We watched until the tape read ten-thirty, but there was nothing.

"Well, well, well."

The mocking voice was Hull's. Turning, I saw him in the doorway with Davis. Hull showed his teeth. "Came all the way down here just to get you a copy of that," he said, pointing at the screen. "Guess you won't need it now." He laughed. "How's it feel to be a loser?"

"Always the model of objectivity, aren't you?"

He nodded. "The 'scam's margin of error is forty-five seconds either way. The tape's is ten. At the very least the chopper left a minute and twelve seconds too early to be involved. And Raal was found inside at ten-twenty-seven and fifty-five."

"The 'scam could've been faulty," Noparstack said. "Or maybe the tape was out of synch."

"Or doctored."

Hull just laughed.

Davis, looking embarrassed, gave me the name of the chopper's owner and the tapes of what the man'd had to say yesterday, and Noparstack and I left.

Hull was still laughing.

As for me—

"I'm sorry," Noparstack said.

So I decided to keep him around a little longer.

We listened and we studied and we made notes. Hull sent us

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the traffic tape, and we watched it until we couldn't see. Then we analyzed the tapestrip itself, but the time and action were correctly aligned, and there definitely were no evidences of tampering or splicing.

We paid a visit to the chopper's owner. His name was Crowell, and he looked like everyone's Uncle Max. He was a salesman, with a salesman's garrulity and way of hiding his own intelligence.

But he was straight. He was in town for a con—"I sell D-tec-to—" and he'd gotten lost as he'd arrived. His two-way wasn't working, and he touched down at the first hostel he'd spotted, hoping it was his.

It wasn't, but he'd stayed awhile and given the manager a preliminary pitch on the wonders of D-tec-to as a home safety device, and then he'd left, planning to come back later and tie it all up.

He needed the money, he said. Why would he kill the man?

I didn't know. But if no one inside had seen him and we could cast doubt on the 'scam's accuracy—

Then we found a report we'd overlooked that said the 'scam had been checked out the morning of the murder.

I think I spent the whole next day crying. And wishing I'd gone into corporate law. While Noparstack followed Crowell and learned only that the two-way was indeed broken. Not only *wasn't* Noparstack pulled into a doorway and worked over, but Crowell didn't even try to lose him.

And I didn't get one threatening vid call. Except from Miles, who was getting impatient. And worried. He felt even worse later.

There was only one thing left to do, and I got everyone together and asked Miles what a guilty plea and minimal sentence were worth.

Absolutely nothing.

He looked dumbfounded and shook his bewigged head. Didn't I know what the Institute had invested in Raal's project? "The money, the man-hours? The trust it's been given? Everything's right on the line." The stockholders and the public wouldn't stand for a massive failure. The government would probably step in. "And things are shaky enough as it is."

"Then I'm off the case," I said. Because there was no workable defense. No jury could look at the facts and find Raal innocent. And any strategic defense, such as insanity, would also fail, because by the time the trial took place, public opinion would have turned into public terror.

The golem was a killer, and I'd wasted enough time and money.

"But you've got to prove he didn't commit the physical act, or the Institute is ruined." Miles was thinking of his job as general counsel as well as of his expected commission, and he looked as worried

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as a judge trying to find a way out of fining a campaign contributor who'd been caught in the act.

What he said was true, of course. Any acceptance of the prosecution's version of the facts would show that the Institute had failed and that Raal's kind were far from safe.

"Our contract's with *Raal,*" Noparstack said. "All *your* client's doing is paying the bill."

"Now wait—" Miles started to protest, but I didn't listen. I was watching as Preebs stood up, straightened her jumper, and walked slowly toward the outer door.

Her ever-present smile was not.

"Just what d'you think you're doing?" I said.

And she told me. She was leaving, she said, before she got mad. She was leaving because it wasn't her place to criticize me. And then she let me have it anyway.

"You ought to listen to your associate once in a while," she said, and she looked from me to Miles to Raal. "And maybe you ought to listen to your client, too. You act as if this man is nothing but a block of wood. You've been talking about, around, through, and sometimes *at* him since you started this case. Well, he *is* your client, Mr. Jefferson. Why don't you try worrying about him for a change? Why don't you try talking *to* him? Seeing what he wants to do?"

Then she shook her head at Raal accusingly. *"You're* the one who'll go to the Garden if convicted, not them."

Raal snorted, and I don't think I'll ever get over the fact that he was still perfectly controlled. "I've only got one suggestion," he said, "and it's quite impractical. I think Jefferson should argue for the resumption of the death penalty. That way I'll have gotten everything I want."

And then he actually confessed.

The decision he'd come to during his retreat was simply this: as far as he was concerned, the Institute's experiment had failed.

But not because Raal and those who would be like him weren't ready.

Oh no.

Because the rest of mankind wasn't.

I didn't argue. My membership in the Establishment is too new.

He'd wanted to commit suicide and had bought a pellet tube through the black market, but then he'd gotten a better idea.

"Killing myself would do two things," he said. "My days of hiding my ability and fighting for acceptance would be over, and public and scientific opinion would cause an end of the project. No one else would have to go through what I have.

"But if I killed someone else, there was the possibility of a third thing happening. During a trial all the facts regarding my social prob-

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lems would come to light in a concrete form. There'd be testimony, things would live! It would be a day-by-day educational experience, and perhaps people would learn to change and accept me—us—as human. It would certainly be more effective than a suicide note.

"I'd suffer more, but I thought it was worth taking the chance. If it didn't work, nothing was lost and the project would still be abandoned."

"But the Institute—" Miles said.

"It owes me a little pain." He was answering Miles, but Raal said it to me, as if I more than anyone else should have understood his argument.

I don't know. I fought *my* war, and I've got my place in the power structure—

And his bid for—was it understanding or plain *revenge?*—was costing me money.

"I've got to get you off," I said.

And then Noparstack jumped up and started to outline a new defense. Inspired by Preebs and her "block of wood."

Miles hollered until his throat needed spraying, Raal's cool shell finally cracked, and Preebs almost started to cry.

But I felt almost happy.

It was a trick, and Noparstack still didn't know what things *really* were like, but it worked. Sort of.

We did the kind of research Noparstack is expert at, reeling through tape after tape of case law, taking down one obscure dictum after another; and after a week the only thing that kept me going was the knowledge that most of the men whose opinions I was scanning were dead.

We went to the indictment and refuted none of Hull's carefully presented facts, letting him gloat. Our defense was more basic than that. Ultimate, you might say.

I stood there and spoke to a judge, who lived a lot higher than his salary could support, and argued two things—only one of them in the courtroom. That as a matter of law, Jarvis Raal could not stand trial for murder.

Because Jarvis Raal wasn't human.

And that as a matter of fact—

For three days we paraded conservative philosophers, theologians, and non-Institute scientists through the bar, and the 'stats and the State's Attorney and even the Institute screamed.

"We've created a man," the Institute had been saying for over twenty years.

We said different.

For three days and—although Noparstack didn't know it—for one exhausting night, when another kind of hearing was held.

A lot of hastily subpoenaed biologists and even more hastily drawn charts were ignored. So, many people claim, was reason.

We won.

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Raal disappeared for about a week, and when they found him this time, he was dead. There was no note. None was needed, and Preebs quit.

At least the 'stats stopped calling for my head.

Miles, of course, was fired, but together we were consoled by our fee.

And then the real problems began. It'll all be on the 'stats soon.

You just shouldn't do the impossible. People get suspicious.

Hull started to dig.

A certain judge and two prominent lawyers—one very dark brown—are being accused of conspiracy, it seems. Something about some kind of bribe.

And Noparstack insists on handling the defense.

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Special Reprint Feature:

REMOTE PROJECTION
by Guillaume Apollinaire

INTRODUCTION BY SAM MOSKOWITZ

Guillaume Apollinaire is best known as a champion of the avant garde *in art, a man who promoted cubism with considerable influence. Time has increased the stature of this controversial but brilliant art critic. The* avant garde *in literature was also one of his major obsessions, and he wrote poetry, plays and short stories which combined elements of good-natured (but satirical) humor, precious irony and not a little sex play.*

Actually, Guillaume Apollinaire was a pen name; the author was born and ponderously catalogued as Guillaume Albert Wladimir Alexandre Apollinaire de Kostrowitzky in Rome on August 8, 1880, of Polish parents. His obsession with, knowledge of and acquaintance with things and people Jewish suggests that there was kinship or bloodlines in addition to intellectual curiosity.

Though he died young—in Paris on November 9, 1918—he was already highly regarded for his tales of sophisticated cruelty, macabre, surrealism and science fiction. These stories evidence a genius that makes them stylistically far in advance of our contemporary work, though most of them are over a half century old. Style was not all they possessed, for Apollinaire was gifted with high originality in plot and content as well.

There exists today a small group of science-fiction writers who are attempting to experiment in style overtly and with spiritual content covertly. Apollinaire should have been enshrined as one of their patron saints, for in this story, "Remote Projection" (which first appeared in the collection L'hérésiarque et Cie *(in 1910), he not only proves to be one of the pioneers in the science fiction concepts of matter transmission and matter duplication, but carries his ideas forward with such elan and dazzling change of pace that he presents an entirely new perspective on the theme.*

"Remote Projection" was accompanied in Apollinaire's 1910 collection by at least one other science-fiction masterpiece, "The Disap-

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pearance of Honoré Subrac," which concerns a man who can blend completely into any solid object. The consequences of this talent are delineated with such effectiveness that it is not inconceivable that a later French science fiction writer, Marcel Aymé, may owe a debt to Apollinaire, most particularly for the now well-known story "The Man Who Walked Through Walls."

L'hérésiarque et Cie *has gone through many editions since 1910 and is now available in the U.S. (see footnote) and in England under the title of* The Wandering Jew And Other Stories *(Rupert Hart-Davis). It was so highly regarded in France that it was the runner-up to Colette's* La Vagabondia *for the Prix Goncourt.*

REMOTE PROJECTION

by Guillaume Apollinaire

NEWSPAPERS HAVE REPORTED the extraordinary story of Aldavid, whom a large number of Jewish communities in the five continents of the world believe to be the Messiah, and whose death occurred in seemingly inexplicable circumstances.

Having been concerned in these events in a most tragic manner, I feel it necessary to unburden myself of a secret, which oppresses me.

Opening the newspapers one morning, my attention was caught by the following news, datelined Cologne:

"Jewish communities on the right bank of the Rhine between Ehrenbreitstein and Beuel are in a state of great turmoil. It is said that the Messiah is living in one of them, at Dollendorf. He is also said to have demonstrated his powers by performing a large number of miracles.

"The disturbance caused by this affair is the subject of considerable concern to the provincial government, which, fearing the spiritual ferment aroused among the people in question, has taken steps to suppress any disorders that may occur.

"There is no doubt in high governmental circles that this Messiah, whose name is believed to be

"Remote Projection" from the book, THE HERESIARCH AND CO., *by Guillaume Apollinaire, translated by Remy Inglis Hall. Copyright © by Doubleday & Co., Inc. Published by Doubleday & Co., Inc.*

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Aldavid, is an impostor. Dr. Frohmann, the distinguished Danish ethnologist, at present a guest of the University of Bonn, went, out of curiosity, to Dollendorf, and states that Aldavid is not a Jew, as he claims, but more likely a Frenchman from the Savoy, where the race of the Allobroges has maintained its pure state over the years. However this may be, the authorities would willingly have expelled Aldavid, if this had been possible; but the man whom the Jews from the Rhineland call the Saviour of Israel disappears whenever he wishes, as if by magic. He is usually to be found in front of the synagogue in Dollendorf, preaching the reconstitution of the Kingdom of Judah in violent and impassioned terms reminiscent of the raucous eloquence of the prophet Ezekiel. There he spends three or four hours a day, and in the evening disappears, no one can discover where. Nobody knows where he lives, or where he takes his meals. It is hoped that before much time has elapsed, this false prophet will be unmasked, and that neither the authorities nor the Rhineland Jews will be further abused by his mountebank tricks. Recognising their error, the latter will be the first to insist on being rid of the adventurer, whose lies tend to induce in them a regrettable arrogance towards the rest of the population, which might well provoke an explosion of anti-Semitism, during which even reasonable people would not feel sorry for its victims. We would add that Aldavid speaks perfect German. He also seems familiar with Jewish customs, and knows their dialect."

This news, which excited public curiosity greatly when it appeared, caused me, why I do not know, to regret the absence of Baron d'Ormesan, from whom I had not heard a word for almost two years.

I said to myself:

"Here is something which would really rouse the Baron's imagination. He would no doubt have many stories of false Messiahs to tell me."

And forgetting the synagogue at Dollendorf, I began to think of my vanished friend, whose imagination and habits never ceased to be disturbing, but in whom, in spite of everything, I still retained a lively interest. Affection had bound me to him since our schooldays together, when he was plain Dormesan; then there were our numerous encounters during which he had given me occasion to appreciate his singular character, his lack of scruples, his somewhat disorderly erudition, and his agreeable and kindly disposition: all were reasons for my sometimes experiencing a desire to see him again.

Next day, the newspapers car-

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ried further news about the Dollendorf affair, which was even more sensational than that of the previous day.

Dispatches dated Frankfurt, Mainz, Leipzig, Strasbourg, Hamburg and Berlin respectively announced simultaneously the presence in their cities of Aldavid.

As at Dollendorf, he had appeared before the principal synagogue in each city.

The news spread quickly in each case; the Jews had assembled, and the Messiah had preached in identical terms everywhere, according to the reports.

In Berlin, at about five o'clock, the police had tried to seize him. But a crowd of Jews surrounded him and put up strong opposition, accompanied by shouts and lamentations. They even resorted to violence, and a large number of arrests were made.

Aldavid himself had disappeared, as if by a miracle . . .

This news made a great impression on me, though no more than it did on the public, who were passionately in favour of Aldavid. Later in the day, special editions of the papers came out, one after another, announcing the appearance (they no longer said the presence) of the Messiah in Prague, Cracow, Amsterdam, Vienna, Leghorn, and even in Rome.

All over the world, feelings reached a climax, and various governments, it will be remembered, held special meetings, the decisions they came to being kept secret, and with good reason, for all of them resulted in an acknowledgment of the fact that since Aldavid's powers seemed to be of a supernatural order, or at least inexplicable by the normal means at the disposal of modern science, it would be better to await, without intervention, the outcome of events which the police seemed unable, for various reasons, to control.

Next day, diplomatic dispatches exchanged between the cabinets of the governments concerned resulted in the arrest of the leading Jewish bankers of each nation.

This measure seemed vital. For if, as appeared likely, Aldavid's preaching were to bring about a new exodus of the Jews to Palestine, an exodus of capital from all countries to the same destination could be predicted, and the financial disasters that would be the consequence of this event had to be avoided. It was also believed, and with reason, that this Messiah —whose ubiquity seemed incontestable, if not the other miracles which were being attributed to him —might well provide by supernatural means the budget for the new Kingdom of Judah when the necessity arose. Thus the Jewish bankers, though treated with the greatest respect, were put in jail, which did not fail to cause a large number of financial disasters:

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stock-exchange panics, bankruptcies and suicides.

All this time, the ubiquity of Aldavid was manifesting itself in France; at Nîmes, Avignon, Bordeaux and Sancerre; and on Good Friday, the man whom the Jews acclaimed as the *Star which was to spring from Jacob,* and whom the Christians did not call anything less than the Antichrist, appeared at about three o'clock in the afternoon in Paris, before the synagogue in the Rue de la Victoire.

Everyone had been awaiting this event, and for several days the Jewish community in Paris had been standing by in the synagogue in Rue de la Victoire, and in all the neighbouring streets. The windows of nearby apartments had been hired for huge sums of money by Israelites who wished to see the Messiah.

When he appeared, the din was tremendous. It could be heard from the heights of Montmartre as far as the Etoile. I was on the boulevards at the time; and with everyone else I hurried in the direction of the Chaussée d'Antin, but could not get further than the junction of the Rue Lafayette, where barricades, with plain-clothes men and mounted police, had been set up.

I learned only in the evening from the newspapers of the new aspects of the affair which emerged during this appearance.

Since the moment when he had ceased to appear exclusively in German-speaking countries, Aldavid spoke less. His recent sessions lasted quite as long as the first ones, but he often fell silent, praying in a low voice, afterwards picking up his preaching in the language of the people among whom he found himself. This gift of tongues, which made his life a daily Pentecost, was no less astonishing than his gift of ubiquity, and the faculty of causing himself to disappear whenever he wished.

During one of his moments of silence, when he appeared to be praying quietly before a concourse of prostrate and silent Jews, a powerful voice rang out suddenly from one of the windows facing the synagogue.

Raising their heads, the congregation saw a monk with a calm, inspired face standing at the window. With his left hand, he held out towards Aldavid a crucifix, while with his right he shook an aspergillum, and drops of holy water fell upon the prodigious man. At the same time, the monk repeated the Catholic formula for exorcism, but the effect was null. Aldavid did not even look up at his exorciser, who, falling on his knees, turned his eyes towards Heaven, kissed the crucifix, and remained for a long time in prayer, face to face with the man from whom the legion of Devils had refused to depart, and who, if he was

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the Antichrist, appeared to be so sure of himself that even exorcism had not troubled his oration.

The effect of this scene on the crowd was immense, and, contemptuous and triumphant, the Jews who had witnessed it refrained from insults or mockery of the monk. They feasted their ardent eyes on their Messiah; then, with exulting hearts, all of them, men, women and children, joined hands, and in close-knit rows began to dance, like David of old before the Ark, singing hosannas and hymns of joy.

On Holy Saturday, Aldavid appeared again in the Rue de la Victoire, and in the other towns where he had already shown himself. His presence was also announced in several large towns and cities in America and Australia, in Tunisia and Algeria, Constantinople, Thessalonica, and Jerusalem, the holy city. There were also reports of activity among a very large number of Jews who were preparing for their departure from various countries for Palestine. Everywhere, emotion ran high. The most sceptical spirits yielded to the evidence, admitting that Aldavid was indeed the Messiah whom the ancient prophecies had promised to the Jews. Catholics awaited anxiously a lead from Rome on these events, but the Vatican seemed to disregard what was happening, and the Pope himself, in his encyclical entitled *Misericordiam*, on the question of armaments, which he proclaimed at this time, made no allusion to the Messiah who appeared every day in Rome, just as he did elsewhere . . .

On Easter Sunday, I was sitting at my desk, carefully reading the telegraphed reports of the previous day's news, Aldavid's pronouncements, and the new exodus of the Jews, the poorest of whom were said to be leaving on foot for Palestine.

Suddenly, I heard my name spoken loudly behind me, causing me to look up; and there in front of me stood Baron d'Ormesan himself.

"There you are!" I cried. "I thought that I should never see you again. You have been away for at least two years . . .

"But how did you get in? I probably left my door open!"

I stood up, went over to the Baron, and we shook hands.

"Sit down," I said to him, "and tell me about your adventures, because I have no doubt that some extraordinary things have happened to you since I saw you last."

"I shall certainly satisfy your curiosity," he said to me. "But allow me, if I may, to remain standing, leaning against the wall. I do not feel like sitting down."

"As you please," I replied. "But first, tell me where you have sprung from, you old ghost!"

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He answered, smiling:

"Would you not do better to ask me where I am now?"

"In my house, of course," I replied impatiently. "You have not changed—always the mystery man. But I suppose what you have just said is part of your story. All right, then! Where are you?"

"I have, in fact, been in Australia for almost three months," he replied, "in a small place in Queensland, and I like it there very much. Nevertheless, it will not be very long before I embark for the Old World, where I am called by important business matters."

I looked at him, somewhat taken aback.

"You astonish me," I said. "However, you have made me used to so many strange things as far as you are concerned that I am willing to believe what you say, but please, I beg of you, explain yourself. You are in my house, yet you say you are in Queensland, Australia. Admit that I have some cause to feel baffled."

He smiled again, then continued:

"I am in fact in Australia, which does not prevent you from seeing me in your home, just as others are seeing me at this very moment in Rome, Berlin, Leghorn and Prague, and in such a vast number of other cities that to name them would be tedious, and—"

"Would you," I cried, interrupting, "happen to be Aldavid?"

"Himself," replied Baron d'Ormesan, "and I trust that you do not doubt my words any longer."

I went up to him, touched him with my hands, and looked at him. There was no doubt about it; he was there, leaning against the wall in front of me. I sat down in an armchair and eagerly contemplated this astonishing personage, who, though he had been several times in prison for theft, and was the unpunished perpetrator of a number of celebrated murders, was also undeniably the most miraculous man alive. I did not dare say anything more to him, and it was he who finally broke the silence:

"Yes," he said, "I am Aldavid, the Messiah of the prophecies, the future King of Judah."

"You amaze me," I protested. "Explain to me how you have managed to work miracles which have held the whole world in suspense?"

He hesitated for a moment, then seemed to reach a decision:

"Science," he said, "is the cause of the alleged miracles I accomplish. You are the only person in whom I can confide, because I have known you for so long, and know also that you will never betray me. Also, I am in great need of a confidant . . . You know that my real name is Dormesan, and you are also aware of some of the artistic crimes committed by me, which are the joy of my life. I have scientific knowledge as vast

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as is my knowledge of literature, which is itself no small matter. I know perfectly a great number of foreign languages, and am thus familiar with all the great literatures, ancient and modern. All this has been most useful to me. True, I have had my ups and downs, but any one fortune of those that I amassed and dissipated, either by gambling or in prodigalities of all kinds, would be considered a respectable sum, even in America . . .

"Anyway, when a small legacy of about two hundred thousand francs fell into my hands, so to speak, four years ago, I used the money for scientific experiments, and carried out research in wireless and wireless telegraphy, the transmission of photographs, colour photography and photography in relief, cinematography, the phonograph, and so on. These experiments led me to concern myself with a point until then neglected by all scientists who had shown interest in these fascinating problems—I mean remote projection. And I ended up by laying down the principles of this new science.

"Just as the human voice can be transmitted from one point to another far distant point, so the appearance of a body, and that solidity through which the blind acquire the notion of it, can be transmitted without it being necessary for the ubiquitist to be connected physically with the body he projects. I may add that the new, transmitted body retains full human faculties to the limits within which these are exerted through the transmitter by the real body. Those miraculous tales, the popular fairy stories, which accord certain characters the gift of ubiquity, show that other men before me have been aware of the fact of remote projection; however, these were only imaginative works of no particular importance. It fell to me to resolve the problem practically and scientifically.

"Naturally, I leave aside those phenomena, or alleged phenomena, of a mediumistic nature, bearing on the duplication of bodies; these phenomena, about which little is known, have, to my knowledge, nothing to do with my own experiments, which were fruitful.

"After a number of attempts, I managed to construct two machines, one of which I kept with me, and placed the other against a tree beside a path in the Parc Montsouris. My experiment was wholly successful, and by operating that transmitter which had cost me so much hard work, and which I now carry about with me all the time, I was able, without leaving the spot where I was in reality, to appear at the same time in the Parc Montsouris, and if not actually to take a walk there, at least to see, talk, touch and be touched in the two places at once. Later, I installed another of my receivers be-

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side a tree in the Champs-Elysées, and recorded with joy that I could also be in three places at the same time. From then on, the world was mine. I could have drawn immense profits from my invention, but I preferred to keep it solely for my own use. My receivers are small and insignificant to look at, and no one has yet removed one of them from the place where I installed it. I put one in your house two years ago, my dear friend, but this is the first time that I have used it, and you have never noticed it."

"Quite true, I have never noticed it," I said.

"These machines look like an ordinary nail," he continued. "For two years I travelled about, nailing my receivers to the facades of all the synagogues. My design was, from a self-styled Baron to become a King, and I could not hope to succeed in this save by founding again the Kingdom of Judah, for the re-establishment of which the Jews have been waiting so long.

"I travelled the five continents in succession, always maintaining contact, thanks to my ubiquity, with my house in Paris, and with my mistress, whom I love and who loves me, but who would have been a trouble to me had she travelled with me. But note, all the same, the practical side of this invention! My mistress, a charming married woman, has never known about my travels. She does not even know if I have left Paris, for every week, on Wednesday, when she comes to visit me, longing for caresses, she finds me waiting for her in bed. I have fitted one of my receivers to it, and in this manner I have been able to sire, in Paris, three children, from Chicago, Melbourne and Jerusalem respectively, who, alas, will not bear my name."

"May you be pardoned," I said, "as the real Messiah pardoned the woman taken in adultery."

He ignored my last remark, and added:

"As for what has happened since, you know it all as well as I do."

"I know everything that has happened," I answered, "but I must criticize you severely. I do not believe you have the qualities required to found an Empire, far less those of a monarch. Your criminal propensities will work against you, and your imagination will one day bring your people to ruin. As a man of science, as a man skilled in the arts, in spite of your crimes, you deserve the indulgence and perhaps even the admiration of people of education and good sense. But as King! You have no right to be one! You will never know how to promulgate just laws, and your subjects will merely be playthings of your fancies. Give up this mad dream of a throne of which you are unworthy. Hundreds of people have set out on foot, believing that you are a sacred personage who will rebuild

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the Temple of Jerusalem. A great number of them have already died for you, miserable imposter that you are. Give up proclaiming that you are the Messiah, which you are not; otherwise I shall denounce you!"

"They will take you for a madman," said the false Messiah, sneering at me. "Do you think me so stupid as to have given you enough information to allow you to harm me by destroying my machine? Do not deceive yourself!"

Anger blinded me, and I no longer knew what I was doing. I seized from my table a revolver which I always kept there, and fired all six shots into the false, but apparently solid, body of the false Messiah, who collapsed with a scream of pain. I jumped on him to hold him down; the body was really there. I had just killed my friend Dormesan, a criminal, but such a pleasant companion! I did not know what to do.

"He deceived me," I said to myself. "It was one of his tricks. He came here without warning me, entered my house without my hearing him, though the door was certainly open. Then he fooled me by pretending to be Aldavid, which was fantastic and charming. I allowed myself to be taken in, and now I have killed him . . . Alas! What will become of me?"

I remained alone with my thoughts for a few moments beside the bleeding corpse of my friend . . .

Then, all of a sudden, I was startled by an extraordinary uproar. "Another of Aldavid's dodges," I said to myself. "I expect he is announcing his coronation. Can I have killed him, and yet still have my friend Dormesan with me?"

I opened the window to discover what further marvels the miracle-worker had performed, and saw a swarm of news vendors of various papers, who, despite a police order forbidding the release of the news, were tearing along as fast as their legs would carry them, shouting:

"Death of the Messiah. Strange details of sudden end."

My blood seemed to freeze in my veins, and I fainted.

I came to myself at about one o'clock in the morning, and shuddered as I touched the corpse which lay beside me. I got up at once and, lifting it from the floor, I summoned all my strength, and threw the body out of the window.

I spent the rest of the night removing the bloodstains from my floor, and then went out to buy the newspapers, to read what all the world now knows: the sudden death of Aldavid in eight hundred and forty cities at once in the five continents of the earth.

The man they called the Messiah seemed to have been praying for more than an hour when, suddenly, he gave a great cry, and six

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holes, exactly resembling revolver-bullet holes, appeared on him near the heart. He collapsed and died at once all over the world, in spite of the care which was lavished on him.

This profusion of corpses belonging to one man—there were exactly eight hundred and forty-one of them, because for some strange reason two of the bodies were found in Paris—did not greatly astonish the public, to whom Aldavid had given so many other occasions for surprise.

Everywhere, the Jews gave him imposing funerals. They could hardly believe that he was dead, and insisted that he would raise himself from the dead in due time. But they waited in vain, and the refounding of the Kingdom of Judah was put off to another time.

I examined carefully the wall where Dormesan first appeared to me. I did indeed find a nail there, but it was so like other nails with which I compared it that it seemed to me impossible it could be one of his machines.

After all, had he not told me himself that he had concealed from me the most essential particulars of his apparatus for making false bodies appear on command, by means of his discovery of the law governing remote projection?

Thus, I am incapable of providing any further information at all about this prodigious invention of Baron d'Ormesan, whose adventures, astonishing or amusing, had delighted me for so long.

Coming next month . . .

. . . is, of course, part two of **Piers Anthony's** exciting new novel. **Brian Cleeve** will be on hand with a funny sequel to THE DEVIL AND DEMOCRACY (November 1966), and **K. M. O'Donnell** (FINAL WAR, April 1968) offers a jarringly different story called DEATH TO THE KEEPER. Also: **Ed Emshwiller** and **Samuel R. Delany** report on 2001: *A Space Odyssey*, the new movie by Stanley Kubrick and Arthur C. Clarke. The August issue is on sale June 27.

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Surely no literary reputation is complete without a bit of, er, good-natured ribbing in print, so we offer this take-off on the work of one of science fiction's most distinctive and creative writers.

THE SUBLIMATION WORLD

by J.G. B.******

Chapter 1: The Eternal Grocer

Price looked across the lagoon, a dry sweep of land, at the mirage. The lagoon was sublimating, turning from liquid ice directly into crystalline air, and through its wavering layers he could make out a Giacometti statue that was probably one of King's men, grown thin. Fronds of zygote enwrapped the old supermarket now, smothering it in lianas and spermaceti, turning it into a fairly good Jackson Pollock painting, the one he always dreamed about. This, too, had a dreamlike mist about it, as did King's man, turning and turning, driven by a wind of solidity. Pterodactyls honked overhead.

Chapter 2: The Harpies' Bazaar

It had become more than a month between Price's visits to the kayak. It was a Faberge gem of a kayak. Mona lay back in her yellow empire gown, trailing one lavender glove in the water. Pterodactyls watched as she combed and brushed out her hair, looking at herself in the atmosphere. Price felt suddenly very tired—but then he had always been suddenly very tired. He wanted to give it all up, to sublimate awhile with the world around him, to rise beating leathern wings into the hot purple sunset. But this could not be, not for the moment. He still felt a peculiar loyalty to the human species. There was still the scurvy to be cleared up, the report to write, the generator to be fixed. He lit his pipe and frowned through its azure smoke at King's elephant. It was marching about in a circle, waving a black flag.

Chapter 3: Mirror of Xanadu

He would write to the govern-

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ment, he thought, coming out of the dream. It was always the same —a hollow, hot, heavy jungle tree, bright green, growing right in the middle of a frozen desert amid yellow-orange flames and bearing seven blue grapes. He picked them, one at a time, and crushed them between his toes. The juice ran like blood into the parched flank of earth. But the last grape he reserved, to crush against the roof of his mouth like a spy's poison capsule, before he died. In the dream he never died.

Chapter 4: Desert of Gas

Man had caused the sublimation. For years, decades, man had poured black, oily fumes into the atmosphere. Some of these fumes descended as solids, to soak into the earth once more, to polarize its proteins. Other matter had risen, faster during the warm days and slower at night, until it reached the sun, altering it slowly and subtly. For over a hundred years, the sun had been getting dirty; now its purplish glow turned the sensitive proteins of earth into iodine.

Price lived in a small, abandoned Abbey, sleeping on the altar and using the decaying harmonium for a cupboard. He kept in the cupboard a few time-fragments, relics of his own past: a beaded belt he'd made in scouts; a rusted mouse; a stamped, self-addressed envelope; and a bottle of hair-oil that he kept despite his baldness. It was *oil,* after all, sacred chrism, and things in the Jurassic past had died to create it . . .

A shot echoed across the iodine flats. One of Mona's kites fluttered like an angry angel's wing, flickered across his vision and fell. In the distance, Joe Olifant had wrapped himself in a black mantle. He drove madly about in his chariot, his whip flickering out like the tongue of a lizard. Price could hear the frightened screams of the horses and Joe's dark, Rasputin laugh.

Chapter 5: The Parsee of the Cobra Casino

King had in his great circus train more food and water and treasure than he and his assassins could hope to use up. It was foolish of Price to try holding out against them. They were the cruel life-force itself. Why should he drink dew? Why cook his last tins of food over a fire of pterodactyl guano? There was finally nothing left to eat but his beaded belt and the few peanuts that King's sharp-eyed elephant might overlook.

King had parked the train in a circle, broken only where the chip of blue lake lay soundless, mirroring nightly strange rites. By the light of gas torches, the tattooed

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woman was charming a cobra. King lay, in his red silk mandarin pajamas, on an enamelled couch, fanning himself with one of Mona's kites. He was barely visible, a slash of red among the yellow balloons, like a wound. At his feet, the pet pterodactyl was busy, methodically ripping apart a peacock.

Chapter 6: An Ozymandian Tangram

There was no water anywhere. All the water had grown heavy and sunk out of sight beneath the earth, which was slowly turning to dry ice. At last Price hitched up the remains of his belt—so emaciated had he become that, though he had eaten half of it, the belt still fit him—and struck out for the purple flats. *I must look like a Giacometti,* he thought. The silver flats turned azure-grey at noon, while the heated air became dank and brown. He looked back and saw the galloping skeleton of the elephant, the howda swaying. King, or the ghost of King, was pursuing him, a ghost. They couldn't let him go off and die alone. They wanted to punish him for turning his back on them, for refusing, like some inverse Toby Tyler, to join their circus.

The elephant was dissolving, and King, sinking slowly to the ground, was falling behind. He took up his electric megaphone and shouted:

"Come back, Price. We need you at camp. Don't be a bloody fool, man!"

Chapter 7: The Bloody Fool

He came upon the dead city at dusk. For awhile he was apprehensive that King might pursue him here, too, using the circus train. Then he saw that the railroad had long since vaporized, leaving only an ash of tracks. The station, too, was a ghost. He had reached the end of the line, the terminal terminal. The whole city was a gibbous dune, once a mercury refinery, now frozen into a single gaseous crystalline chrysalid, depended from what once had been a flaming bloodfruit tree, now gone to iron, ironically.

The tree reminded him of something. He took out the blue grape to eat it and found that it, too, was diminished, worn away by the invisible though solid wind that moved from past to future.

—JOHN SLADEK

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SCIENCE

LITTLE LOST SATELLITE

by Isaac Asimov

THE OLDER ONE GETS, THE MORE one tends to reminisce, I suppose. This year, as it happens, I celebrate (if that's the word I want) my thirtieth anniversary as a professional writer—something quite unbelievable to me, since it seems to me I am not very much more than thirty years old.

To emphasize this fact, I have already had to renew the copyright of an even dozen of my early science fiction stories, and when one begins renewing copyrights, it becomes necessary to face it—late youth is upon the doorstep.

So my mind keeps turning back, more than it used to, to the first science fiction story I ever sold—back in October of 1938. The receipt of the letter of acceptance, with enclosed check, from Ray Palmer of Amazing Stories was one of the high points of my life. I couldn't very well frame the check for I needed the money, so I framed the letter of acceptance.

The letter was written with a dead ribbon on gray paper and only a close scrutiny made it legible at all. This was good, since it kept my modesty intact. I didn't have to say a single vainglorious word. A visitor would ask, "Why have you got an empty frame on the wall?" and I would merely say, "It isn't empty." Then my visitor would automatically approach the frame and read the letter.

Best advertisement a modest fellow ever had.

The name of that first story was MAROONED OFF VESTA. I've never done an article about Vesta, which is well worth an article, and this year I ought to. So I will, and we will begin with the asteroids generally, for Vesta, as you undoubtedly know, is an asteroid.

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The first asteroid to be discovered was, surprisingly, the largest. No, that is not a typographical error. You might well suppose that it would be natural to see the largest first, but that isn't so in this case, and I will come back to why later.

This discovery took place on January 1, 1801, under circumstances described in THE BLACK OF NIGHT (F & SF, November 1964), so I won't go into detail here.*

A second asteroid was discovered in 1802, a third in 1804 and a fourth in 1807, and there it stopped. For thirty-eight years that was how matters stood and astronomers, who had been rattled at finding four objects in what was essentially a single orbit, settled down.

But you can always count on one troublemaker, and in this case it was a German astronomer, Karl Ludwig Hencke, who, in 1830, decided he would scour the heavens and see if he could find a fifth. Year after year he searched and searched and then in 1845, he found it. And in 1847, he found a sixth, while the English astronomer, John Russell Hind, found a seventh and eighth. After that, it was just a rat-race.

Some 1600 asteroids are now sufficiently well known to have their orbits plotted. It is estimated that there are about 44,000 asteroids with diameters of more than a mile and heaven knows how much rubble less than a mile in diameter.

But never mind the thousands. I am going to concentrate on those first four asteroids which, between 1807 and 1845, existed in lonely splendor in the consciousness of astronomers. Their names, in the order of discovery are: Ceres, Pallas, Juno, and Vesta.

As it happens, these are large bodies as asteroids go, and the best figures I can find for their diameters are listed in Table 1:

Table 1

	Diameter (miles)
Ceres	470
Pallas	300
Juno	120
Vesta	240

It seems quite certain that no other known asteroid has a diameter of

* *The more articles I write, and this is #117, the more likely it becomes that I must repeat a point now and then. Since I don't really expect anyone to read and memorize every article I write, I will not hesitate to repeat when necessary. However, repeating is dull for me and possibly also for those readers who just happen to remember, and I avoid it when I think I can get away with it.*

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as much as 240 miles, so Ceres, Pallas and Vesta are the three largest asteroids in that order, pretty much beyond question. A number of asteroids, however, are very likely to have diameters between 120 and 240 miles, and some have actually been estimated (with considerable uncertainty) to be in that range. However, by virtue of time of discovery and position of orbit, Juno makes a natural fourth and we can speak conveniently, if not entirely accurately, of the "Big Four."

The Big Four have perfectly ordinary orbits, firmly between those of Mars and Jupiter. Some of the details are given in Table 2:

Table 2

	Distance from the Sun (millions of miles)			*Eccentricity of orbit*
	average	*closest (perihelion)*	*farthest (aphelion)*	
Ceres	257	237	278	0.079
Pallas	257	197	319	0.235
Juno	247	184	310	0.258
Vesta	219	206	239	0.088

The orbit of Ceres, as you see, is nearly circular. Its eccentricity of 0.079 is less than that of Mars. What's more, its mean distance, 257 million miles, is very nearly that of the average distance of all the asteroids whose orbits are known. Vesta's orbit is only slightly less circular and it is distinctly closer to the Sun than Ceres is. Vesta's farthest point from the Sun is about as far from it as is Ceres' closest point. As for the period of revolution of the Big Four, that is in Table 3:

Table 3

	Period of Revolution	
	(days)	*(years)*
Ceres	1680	4.60
Pallas	1686	4.61
Juno	1593	4.36
Vesta	1325	3.63

Pallas and Juno, from the data given in Table 2, seem to have nearly identical orbits. This may make it sound as if these two, particularly, are too close and are going to collide one of these days. Not at all.

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The orbital diagrams you usually see in astronomy texts are two-dimensional projections of a three-dimensional reality. Orbits are tipped by different amounts to the plane of Earth's orbit (the ecliptic) as shown in Table 4:

Table 4

	Tilt to Ecliptic (degrees)
Ceres	10.6
Pallas	34.8
Juno	13.0
Vesta	7.1

Where, in two dimensions, the orbits seem to cross, a three-dimensional model would show one crossing far above or far below another. There is no danger of collision in the foreseeable future.

It is customary to consider the asteroids as small fry and dismiss them. Indeed, the most nearly proper name given them by astronomers is "minor planets." But that is a purely anthropocentric classification. After all, an inhabitant of Jupiter might, with considerable justification, list just four planets (Jupiter, Saturn, Uranus and Neptune) and put everything else, from Earth on down, into the "minor planet" classification.

So let's try to consider the Big Four, at least, as objects worthy of individual consideration and see what we can find out about them.

Some have estimated that the total mass of all the asteroids is about 1/800 that of the Earth, or about 1/10 that of the Moon. This is only a rough guess, of course, but let's use it. This would mean that the total mass of the asteroids would be about 8,500,000,000,000,000,000 tons. The individual masses of the Big Four (also a rough guess) is as shown in Table 5:

Table 5

	Mass (tons)	*Percent Total Asteroid Mass*
Ceres	850,000,000,000,000,000	10.0
Pallas	220,000,000,000,000,000	2.6
Juno	14,000,000,000,000,000	0.2
Vesta	110,000,000,000,000,000	1.3

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From the standpoint of mass, then, it would really seem as though there is only a "Big One"—Ceres. It is four times as massive as the second largest satellite and, within its own small sphere, it contains one-tenth of all the asteroidal matter. Together, the Big Four make up one-seventh of all the asteroidal matter.

Suppose, next, that we had reached the Big Four and decided to set up a base on one of them. What would things be like at such a station? First, how far away would the horizon seem?

As it happens, the distance of the horizon from some given low height above the surface is proportional to the square root of the diameter of the planet. Since the diameter of Ceres is just about 1/17 that of the Earth, the distance of the horizon on Ceres would be about 1/4.1 that of the horizon on Earth.

If we were standing on the surface of a large flat plain on Earth and were of average height so that our eyes were 5½ feet above ground, the horizon would be about 16,000 feet away (just over 3 miles). Supposing the Big Four to be smooth spheres, the horizon distance on them would be as shown in Table 6.

Table 6

	Distance of Horizon (feet)
Ceres	4,000
Pallas	3,100
Juno	2,000
Vesta	2,800

It seems to me this is an important point. The dome of the sky would come down and meet the ground on Ceres, along a circle much closer to your eye than it does on Earth.

What's more, on Earth, the presence of an atmosphere dims objects on the horizon and turns them bluish. (We can see the tops of hills and mountains much farther than 16,000 feet away, of course, and they are all the mistier and bluer for that.) We use this mistiness as a way of unconsciously estimating distance. When the air is very clear and distant objects seem sharper than usual, we automatically think they are closer than they really are.

Well, on Ceres, where there is no atmosphere, the objects on the horizon would be sharply outlined. Even the tops of crags farther than 4,000 feet away would be sharp. We would therefore estimate the horizon on

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Ceres to be closer than it actually is. It seems to me certain, then, that the men establishing a base on Ceres (and even more so on the other asteroids) would be subject to claustrophobic uneasiness. Some, who are used to wide open spaces, might not be able to make it, and perhaps the asteroids had better be staffed by city boys.

In another way, the Big Four are not so small after all. What about their surface area? See Table 7:

Table 7

	Surface Area (square miles)
Ceres	700,000
Pallas	280,000
Juno	45,000
Vesta	180,000

The surface area of Ceres is just about as large as that of Alaska plus California. Even the surface area of Juno, the smallest of the four is equal to that of New York State, and the total area of all four is equal to one-third that of the fifty United States. There is plenty of room to explore on the Big Four and, for that matter, plenty of room in which to get hopelessly lost.

The question of surface gravity may make the Big Four seem small again. If two spherical bodies are of equal density, then the surface gravity is proportional to the diameter. If we assume that the Big Four are essentially rocky in character, then they probably have the same density as the Moon. The surface gravity of the Moon (2,160 miles in diameter) is 0.16 that of the Earth. In that case, we can prepare Table 8:

Table 8

	Surface Gravity (percent of Earth's)	*A 180-pound man will weigh— (pounds)*
Ceres	3.5	6.3
Pallas	2.2	4.0
Juno	0.9	1.6
Vesta	1.8	3.2

This looks like a set of feeble grasps indeed. Is it possible that a person, making a careless move, might shoot upward and away from the

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satellite altogether? Would the feeble gravity fail to hold him, and would he be lost in space? To test the danger of that, it is only necessary to calculate the escape velocity, as in Table 9:

Table 9

	Escape velocity	
	(miles/second)	*(miles/hour)*
Ceres	0.33	1200
Pallas	0.21	750
Juno	0.08	300
Vesta	0.16	600

These values are not high compared to Earth's escape velocity, which is 6.98 miles per second, or 25,000 miles an hour. Still even on Juno, the baby of the four, one would have to move at a speed of 300 miles per hour to lift off the asteroid. You are certainly not going to jump upward at that speed. You are not even going to drive a ground vehicle at that speed. You will therefore be held by the asteroid, and the gravitational force, small though it may seem, will do its essential job.

But now let's raise the question of the order of discovery. I said, at the start of the article, that it was surprising that the first satellite to be discovered was the largest. The reason that is surprising is that you would expect the first satellite to be discovered to be the *brightest,* and the largest is not necessarily the brightest.

Being large helps, of course. All other things being equal, a large body catches more sunlight than a small one and is brighter. But are all other things equal? Two factors in particular may affect matters: distance and albedo.

It is clear that the farther from the Sun an asteroid is, the less light it catches and the less bright it is. A small asteroid near the orbit of Mars ought to be brighter than a considerably larger asteroid near the orbit of Jupiter, and the smaller ought to be discovered sooner than the larger.

But as it happens, the Big Four are moderately close to us as asteroid distances go, and there are no reasonably large ones that are markedly closer than they are. It is not to be expected then that any asteroid will be discovered earlier than the Big Four merely because of a distance difference.

Furthermore, the Big Four themselves are not at markedly different distances; not enough different, at any rate, to overcome the size differential. Eliminate distance, then.

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What about albedo?

Albedo is the fraction of the light received by a planet that is then reflected. Thus, if a planet reflects one-fifth of the light it receives from the Sun, it has an albedo of 0.2.

As it happens, the solid rock of a planetary surface is a poor reflector of light. The Moon, which has a surface that is all rock and that is all exposed to direct sunlight (since there is no atmosphere present) reflects only about 1/16 of the light it receives. Its albedo is 0.06, and the same is true for Mercury.

A cloudy atmosphere is much better at reflecting light. Mars, with a thin atmosphere and an occasional thin cloud, has an albedo of 0.15, two and a half times that of Mercury and the Moon.

Planets with thicker atmospheres reflect an even larger fraction of the light they receive. The albedo of the Earth is 0.40, while that of the outer planets approaches the 0.50 mark. Venus's clouds do best of all for some reason, and its albedo is about 0.70.

But with respect to the asteroids, the albedo should raise no problem. It passes the bounds of belief that even the largest asteroid should be able to retain an atmosphere. If we consider the asteroids, generally, as composed of rock, all should have an albedo of 0.06. (Indeed, asteroids other than the Big Four have their diameters calculated from their known distance and brightness by assuming this albedo.)

Therefore, we can (it would seem) eliminate the albedo as a factor. We can expect the brightness of the Big Four to decrease with size, and therefore we can expect that chances are the Big Four would have been discovered in order of size.

The apparent brightness of an astronomical body is measured in magnitudes, which is a logarithmic scale. That is, a body of magnitude 7 is 2.5 times as bright as one of magnitude 8 and is 2.5 x 2.5 or 6.25 times as bright as one of magnitude 9 and so on. (Notice that the higher the magnitude, the less the brightness.)

If we consider the first three asteroids to be discovered, all this works out neatly, as in Table 10.

Table 10

	Diameter (miles)	*Magnitude (closest to Earth)*	*Brightness (Juno = 1)*	*Year Discovered*
Ceres	470	7.4	3.3	1801
Pallas	300	8.0	1.9	1802
Juno	120	8.7	1.0	1804

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Ceres, the brightest of the three, is too dim at its brightest to be seen by the unaided eye, but even a small telescope will show it, so you might suppose it only right that it was first discovered. Then Pallas, which is over half as bright as Ceres, and then Juno, which is over half as bright as Pallas.

But Vesta is larger than Juno, and should be brighter. Why was it discovered in 1807, three years after Juno? It can't be distance because it is even closer than Juno. Perhaps then, it is albedo. Perhaps, for some reason, Vesta is composed of darker rock and is dimmer than Juno despite the larger size of the former.

Yet that is not so either. In fact, Vesta's magnitude, far from being greater than that of Juno, is not only less than Juno's but less than that of Pallas and even of Ceres. Vesta has a magnitude, at closest approach, of 6.5, which means that it is no less than 7.5 times as bright as Juno. It is even 2.3 times as bright as Ceres.

To put it most sharply, Vesta is the brightest of all the asteroids and at its brightest can just barely be made out on a dark, moonless night by someone with excellent eyes. It is the only asteroid that can ever be seen with the unaided eye.

Why, then, did it take so long to discover Vesta?

Ceres was discovered by accident. Its discoverer wasn't looking for any planetary body and he happened to spot Ceres, the second brightest asteroid. That's reasonable enough.

Still, for six years after that, a group of astronomers searched intently for other asteroids. Why is it they found Pallas and Juno before they found the much brighter Vesta; *years* before?

But that's a minor mystery, after all. What is much more puzzling is why Vesta should be so bright.

The surface area of Vesta is just about ¼ that of Ceres. Allowing for the fact that Vesta is a trifle closer to the Sun and gets more light, it should be about ⅓ as bright as Ceres if the two were of equal albedo. The fact that Vesta is actually ⅞ as bright as Ceres means that it must have an albedo that is seven times as high. The albedo of Vesta is possibly as high as 0.5, equal to that of planets with deep, thick atmospheres.

But Vesta *can't* have a deep, thick atmosphere. The only remaining alternative is that it has an icy surface; that there are fields of ice (or possibly frozen carbon dioxide) on Vesta's surface, reflecting, with considerable efficiency, the feeble light of the distant Sun.

But if that is so, where did the ice come from? Why should it be only one asteroid out of all those thousands that is icy?

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Or *is* it just one? Is it possible that there is a whole class of icy asteroids? Is it just that of the four, whose diameters we happen to have measured directly with fair accuracy, only one is icy, and that that gives us a false impression of uniqueness.

All the other asteroids have had their diameters determined on the assumption of a low albedo. Suppose a number of them have high albedoes and are considerably smaller than we assume.

Perhaps an original asteroid-planet exploded, its interior forming stony asteroids (with a few nickel-irons from its core, if it had one) while its ice-encrusted surface gave birth to Vesta-type asteroids; with only Vesta itself, of that type, clearly visible.

But there are problems. Would the catastrophe leave the ice on a surface fragment intact? Wouldn't the ice be blown off or melted off by the energies released by the explosion, and distributed through space? And would the fragment, undoubtedly irregular to begin with, coalesce into the fairly spherical shape Vesta now has, with ice remaining on the surface rather than folding into the interior?

And if the explosion-theory is eliminated, what is the alternative?

One suggestion is that Vesta *is* unique, because it is not an asteroid at all, but a displaced satellite. If it had been a statellite to begin with, it would have been a sphere from its time of formation, and it might have picked up an ice layer from the outer atmosphere of the young planet it was circling. Then, somehow, the satellite was pulled away from the planet and went wandering off, lost in the asteroid belt.

It's a touching picture of a little lost satellite, but what would its original planet have been? The closest planets to the asteroid belt are Jupiter and Mars. Could Vesta have once been a satellite of Jupiter?

We have one piece of information that might help us decide. In 1967, careful measurements of the brightness of Vesta were made and a tiny variation within a period of 5⅓ hours was reported. Supposedly, this represents its period of rotation, for some parts of its surface may be less densely covered with ice than others. As the relatively rocky side shows, the albedo drops and with it the brightness; as the icy side shows, both go back up again, and this is repeated over and over.

Such a rotation ought to represent Vesta's original period of revolution about a planet; for if it had been a satellite, it would very likely have presented but one face to its planet and have had a rotation equal to its period of revolution, like our own Moon.

For a satellite to circle Jupiter in 5⅓ hours, it would have to be 64,000 miles from Jupiter's center, or only 20,000 miles above its vis-

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ible cloud layer—much closer than Jupiter's closest present satellite.

A satellite in that position—even if it could withstand the tidal strain of Jupiter's vast gravity—couldn't possibly have been snatched away from that planet's enormous grip by any reasonable mechanism. Even if some unimaginable catastrophe had ripped away an inner-satellite-Vesta from Jupiter, how could it have done so without disturbing Jupiter's other inner satellites?

(How can we tell the other inner satellites weren't disturbed? Well, Jupiter's five innermost satellites circle it in almost perfect circles and almost exactly in the planetary equatorial plane, and that can only be true for satellites that have never been seriously disturbed from the moment of their formation.)

If Vesta were originally a satellite of Mars, the situation would not be much better. To revolve in 5⅓ hours it would have to circle Mars at a distance of 4,500 miles from its center, or 2,400 miles above its surface. It would be closer to the planet than either Phobos or Deimos. It could not have been abstracted from its position without disturbing Phobos and Deimos, and those two satellites have not been disturbed.

Besides, if Vesta had been abstracted from anywhere by some cosmic catastrophe, it would very likely have an eccentric orbit; but it doesn't, not particularly. And it revolves just about where a normal asteroid should. That's asking a lot of coincidence for a little lost satellite.

So there is no really good explanation for Vesta, and because of that very fact, it may have more to tell us about the asteroids generally, and about the Solar system as a whole, perhaps, than any other body between Mars and Jupiter.

When the time comes, then, that our manned spaceships head out beyond Mars at last, I want to put in a strong suggestion for the port of first call.

Vesta, please!

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Hayden Howard (THE ESKIMO INVASION, *Ballantine*) *makes his first appearance in F&SF with a story about the ultimate protest and drop-out, a No-Speech Movement. "Language may be a net, limiting the mental movements of the members of a society, but who can withdraw completely from it?" asks Mr. Howard. And what happens when they try?*

BEYOND WORDS

by Hayden Howard

Your-their loud voices shouldn't have used the word—murder. Three of us entered the desert in silence, and three have returned. Therefore, death's only a word.

You-they handed me these denims without a belt so I couldn't hang myself. Purposely did you leave this dagger-sharp pen in my cell? With this sharp programmer's pen, I could stab magnetic ink through my eye to my doped brain, and remain silent forever.

You purposely left this scritchy writing pad. For essay exams my profs used to hand out these same word-spaced writing pads. Computers instantly would read the magnetic ink and grade us. Now colleges and cops both use them.

You gave up interrogating me so soon. Strangely, that injection is burning hotter now from my wrist to my brain than when you walked me back to my cell. After nine months of silence in the desert, my dry mouth could have resisted your interrogation forever.

My compulsively writing hand moves like a flapping tongue. I may be quick enough to tear up my words when I hear your boot steps in the corridor, if I care to. The magnetic finger of your computer could stroke my scrawling words. Its memory circuitry could cross-

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reference my phrases. Its inductive polarization could cross-check their implications for internal inconsistency.

Of course I'll lie! All words are meaningless. What happened in the desert is beyond words.

You stared at me like I'm an animal or something. I would have been a senior last fall. Your professional faces masked your fear of all that I represent in this country. In silent protest, I tore free from the net.

You're helplessly caught in the net of all the false words you've ever learned. Ever since you were cooing babies, you've been supported by more tightening strings of words until you can't even feel how tightly our country's net of words has tightened around you. You can't know which words to disbelieve.

Disbelieve all of them! Before I split from the underground newspaper scene, I wrote with all the wordy grace of a stoned English lit. major. Miraculously, I became wordless. I tried to go where it's at —nine months ago. We tried. To go beyond words—

In perfect silence, the three of us knelt on the desert sand. We buried our clothes in the mouth of the unexplored canyon. I stood up, stretching out of my mental uniform. Feeling the sunlight, grokking the wonderfully soft wind on my skin, I inhaled, turning. My grandfather sun dazzled against the granite cliffs on the afternoon side. The morning side of the canyon hid in its own shadow. *Tsee-tsee,* an invisible bird cried, *tsee-tsee.*

Tsee what? Having stripped ourselves of words, we three made triumphant gestures of freedom. But even in our nakedness, I noticed each of us still clung to at least one artifact of the Electromechanical Establishment. Sarah had retained two.

With his uncertain grin, George flashed his chromium pot-lighter. To my surprise, he limped back to our only transportation. The shiny Jeepcopter was the final bribe from his father, but George wasn't going to reapply for readmission to the Multiversity. He wasn't going to graduate with the Class of 1984. George set it afire, and the helicopter blurted oily smoke like a signal for help.

This was uncool, I thought, both sad and glad. Freed from words, joyfully unable to put George down, I danced after them around his blazing whirlybird. With a whoosh of flame and heat against our bared skins, that mechanical bribe from the middle-aged power structure ruptured its fuel tank, flung away its rotor and crumpled on the desert sand.

The afternoon sunlight slid across Sarah's bending back and gleamed on her old bruise from a cop's club as she crawled toward the dying flames. From her neck,

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she slipped off one artifact of civilization. She tossed her picture locket into the copter's glowing skeleton. I knew her locket contained that famous photograph on the steps of the Capitol Building of a faceless woman in flames.

Sarah turned—toward George. Away from this hung-up scene, I looked into the silent canyon. The story of how that T-square, name of George, connected to Sarah, of all people, would blow your mind. Please believe me, because George really was a mechanical engineering student. Not even a plastic protester, I thought. As soon as George really understood how far out we were headed, he would have to cop out.

Thunder rumbled in the blue sky. We smiled defiantly past each other. Streaking up the desert horizon from an A.F.B. buried beyond, the smoky plume from another gold-plated rocket faded into the waste of space. In naked contrast, Sarah raised her arm. In her hand glinted the glass bottle of her pills, a year's supply. I lifted the carton of K rations, a week's supply. Beyond that—our ultimate protest.

Walking up the quiet canyon together in contact high, we were walking away from all the verbal hang-ups of mankind. I felt we were walking inward toward (there are no words for it). My walking legs grokked the radiant warmth from the granite cliff and the passing whisk from a feathery bush and the quick caress of a fly.

Say nothing and feel everything, I thought with voiceless joy as the afternoon canyon opened ahead of me in the wonderful silence of the world before Man clambered down from the trees, jabbering.

Blundering awkwardly ahead, George threw a rock at an obese lizard. Switching its tail, the chuckwalla scrambled toward its granite crevice. George glanced back grinning at Sarah for approval. He ignored me. He limped ahead of me as if he had become a guru, too, bugging me. Physically he was bigger than I, and he limped from a lucky trick knee, because of high school football. He didn't need to worry about the draft.

I was walking away from it. Because I chose K rations to ease our transition was my irony. Come Monday when my expulsion notice from the Multiversity finally canceled my draft deferment, the bald warriors of my draft board would wonder where I'd disappeared. In wordless irony I'd be eating K rations just like "our boys" of all ages who are defending our way of life in stranger countries every year. I wondered if our spacemen dug in on the Moon were enjoying K rations in their billion-dollar crater.

In our priceless desert canyon, Sarah danced ahead with sunlight flashing from the glass bottle in her flying hand, no other place for her to carry her trusty pills. Her whirling shadow sent startled chuck-

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wallas scurrying past the shade of their feeding bushes. Through the sunlight those wrinkled lizards, too big to live on flies, scrambled toward their home crevices as she danced. A flabby chuckwalla flopped from a cactus with a red flower still protruding from its saurian jaws as it fled. Extinct Indians ate these lizards. I hoped raw lizard meat would make George cop out.

Where green water-stains trickled down the canyon wall, we tilted up our heads to drink like birds. Beneath the high blue sky, our canyon curved away behind cliffs into a great bend hidden ahead. I walked faster. The cliffs seemed to tilt inward. I was anxious to meet whatever was beyond the Great Bend ahead. My heart thudding with excitement, I began to feel—if we rounded the Great Bend, we would not be coming back this way again. If we passed the Great Bend, we would be out of sight.

But George sat down. In a contortion, eye-balling the bottom of his foot, George tried to pluck out an invisible cactus spine. Impatiently I waited for him to move on. But Sarah plumped down beside him on the sand, smiling up at me, more specifically at my carton of K rations.

We had stopped short of the Great Bend. While the shadows of the cliffs leaned over us, we three squatted closer together, determinedly chewing K rations. In our eye-widening dusk, from beyond the Great Bend, something shrieked. George scrambled to his feet.

On our ledge clinging to the granite cliff, we three huddled in darkness, wordlessly incomplete, while beyond the Great Bend that fierce voice squalled like a great cat —with larynx of brass.

Crouched between us, from her soft hip to her shoulder, I felt Sarah's body flow upward in an involuntary shudder. Then she suppressed all body movement with her usual Spartan stubbornness.

Only a bobcat, I wanted to explain. Wordless, I started to put my arm around her, but George's already was.

This canyon was somewhat wilder than Multiversity Hill, where Sarah and I had squatted fully clothed on adjoining boulders for two weeks until sympathizers, who had been bringing us burgers and tacitos, forcibly carried me off to Multiversity Hospital. Please believe me, I was not copping out. Pneumonia is not copping out, no matter what Sarah must have thought and would never say. Wordless, Sarah maintained silence on her boulder in fog and rainy nights. Uptight inside my transparent oxygen tent, I closed my eyes while my ex-disciples snidely shouted for me not to worry about Sarah. At night she was being covered by some square engineering student no one had noticed before, name of George, and my fever had risen.

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Belatedly, the Multiversity seemed to recognize Sarah's voiceless threat to their whole social order. They sent four big Kampus Kops to drag her off her boulder. If we don't speak, if we don't answer you cops, cops become afraid we're against whatever they're still trying to believe, and they become violent. Those four robots of the middle-aged power structure dragged Sarah off to the Multiversity Hospital. They telephoned her father again in desperation. Our perfect silence bugs them more than sing-ins or even riot-ins. They can't endure to watch us escape from them into the silence.

Sarah's father roared into my hospital roo..i blaming me for the whole No-Speech Movement and for Sarah's previous protests and old arrests before I even knew her. "What have you done to my daughter?" He succeeded in getting me expelled from the Multiversity although Sarah hadn't even caught cold. She wasn't harmed at all. While I was hospitalized, she had been kept warm during her silent vigil by a strange square with short hair, namely George. How did I feel about that?

From the Great Bend squalled the angry voice of the bobcat, guarding his territory. With glee, I heard George frantically shifting rocks on our ledge. Although he was so much bigger than I, he was losing his cool. He was groping for a Neanderthal Pentagon weapon and finding himself unable to become one with Nature. I hoped he would cop out and split at dawn. In the endless darkness, from around the Great Bend, the bobcat squalled.

Reassuringly, I stroked the goose pimples on Sarah's leg, trying to communicate to her that a bobcat's head is only this big. With my finger tracing on her skin, I let her navel represent the bobcat's eye. She pushed my hand away.

With her usual determination, Sarah slept while George squirmed, and finally he went to sleep before I did. On that sloping granite ledge, the night was a bummer. Sliding and squirming, I hoped George would cop out soon.

In the shivering dawn, I stared down at the two of them in sleep huddled together. I hadn't anticipated that George would burn his copter bridge to the outside world.

When I opened a can of K rations, George awoke with a large and noisy appetite. Down in the new sunlight on the morning side of the canyon, we squatted on either side of Sarah, while she ate from George's can. I stood up, anxious to lead them around the Great Bend. But they lazed side by side in the sunlight, pretending they didn't understand what I wanted, even when I pointed toward the Great Bend. They smiled at each other.

George sprinkled dust on Sar-

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ah's body. To my disgust, Sarah even giggled aloud. Like a bird taking a dust bath, she kept shaking herself in the billowing dust and shafts of sunlight. George kept touching her, and my head began to thump. Splitting, walking away from them toward the Great Bend, thinking back at them with fury, I walked slower and slower, all alone. At the corner of my eye, something began doing push-ups on the motionless rock slide. With no voice, I couldn't yell out my exploding rage.

That chuckwalla scrambled away as I hurled another rock. My body surged with hate at him and with surprise as I hit him. His tail lashing, that chuckwalla slid down the slope with his obese body inflating big as a swollen foot. With startling joy, I smashed his head. His beady skin, speckled like granite, burst open as I smashed out his bubbly red innards. With thudding realization, I wondered excitedly why I'd never killed anything before. I was able to use my fingers like claws, stripping out stringy meat. With my first triumphant fist full of meat which I had killed myself, I crept back down the canyon and startled them.

Sarah and George lay sagging on the sand, blinking up at me as if they'd just awakened. They were staring at my bloody fist. I squatted down and handed out tiny strips of chuckwalla meat, one for Sarah, one for George, one for Sarah, one for— George was sniffing his. With a sour-grapes expression, he glanced at Sarah. After touching hers with her tongue, she coolly smiled at me and methodically chewed. It felt like raw chicken to my teeth, and I swallowed and smiled challengingly at George.

With her usual determination, Sarah chewed all of hers, fluttering her dusty eyelids at me and nodding. George finally gulped his— or rather mine, for I had killed this chuckwalla. The first chuckwalla I had killed, and George had to eat it! But in a week, after he had sneaked the last of our K rations and his skull showed through his cheeks, George was ready to eat anything. We hunted so frantically for lizards in the rock slides that we hadn't time to advance around the Great Bend. Please believe me, I wasn't afraid of a bobcat.

In our hunting territory, on our rock slides, clumsy George was worthless. As a hunter, he had a strong arm, and his rocks always missed. Occasionally a startled chuckwalla would scurry into the wrong crevice, one so shallow our groping hands could reach it. A desperate chuckwalla inflates itself so tightly in its crevice that it becomes almost impossible to drag out.

Although the extinct Indians must have known how to deflate chuckwallas, my sharpened stick merely dimpled their leathery

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skins, ramming them further back into their crevices. George painstakingly attached an obsidian flake to the end of a stick, and I knew he was thinking the word: *spear,* with all its verbal connotations. Before long he would be reinventing the bow, the gun and napalm. When I thought he was asleep, I broke his spear. To my surprise, he snarled at me like an animal, chasing me across the talus slope. Boulders slid down at him, mashing his big toe. He growled so loudly with pain that for a moment I thought he would cop out and say a word.

While his toe turned purple, I thought he would cop out and leave us. But George simply sulked around our shallow wind-cave, waiting for handouts. In my freedom, I had a perfect right to eat my chuckwallas as soon as I killed them, and did so, alone on my morning side of the canyon. But Sarah had such quick hands and so much determination, and there seemed to be so many more chuckwallas on their afternoon side of the canyon, that she fed George until his toenail came off and he started trying to hunt again.

From my morning side of the canyon, I would spy across at him as he clumsily uprooted boulders on his afternoon rock slides as if he were a grizzly bear. He dug out baby chuckwallas as if he had no concern for our winter food supply. Without words, it would be difficult to explain conservation. In their cave, evidently he thought my twisted smile at his scrawny kill was directed against him, because neither of them made me feel welcome any more. Together on their bed of sand and leaves, they grinned up at me infuriatingly. Lacking words to reciprocate, I poured a handful of sand on them. His other foot rammed my chest, almost knocking me off the ledge. She sat up with a snide smile. I hurled her glass bottle of pills down the canyon. Back through the dusk came the shattering sound of glass as her bottle of pills burst against the rock slide.

Sarah bleated aloud. George growled, and I scrambled away with them sliding after me as I fled. From the familiar rocks on my side of the canyon, I could hear both of them scuffing around in the rock slide, no doubt groping for her pills in the darkness. I hoped they'd find sharp glass splinters. Toward dawn, through the silence I heard the squeaking of pack rats in the rock slide. With amusement, I wondered how the nosy pack rats liked her pills. Would there be fewer litters?

In the morning sunlight, the hair on my neck prickled when I opened my eyes to see George down there on my side of the canyon. Was he stalking a lizard in my territory or me? Creeping high above him, in self-defense I hurled down a boulder. He fled like a big

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dog frightened out of someone else's yard. After that I didn't cross the canyon into his territory, where he was stronger.

From behind a boulder, I would peer across the canyon when the afternoon sunlight filled their cave. They would be sprawled together in their warmer sunlight than mine as winter approached. I knew Sarah would not cop out.

Voicelessly they seemed to be existing together as if they could become one with this silent canyon. Impossible together, I thought, and George never! Only those already prepared to seek oneness in perfect silence, those like inspired religious hermits, have been able to vanish into the deserts of the world and become one with the sand, their gleaming bones—

He must be insane, I thought, watching George dangerously uprooting boulders in his rock-slide. Struggling to dig out one little lizard from that motionless avalanche, he seemed free of worry that his rock slide would engulf him. Like an animal, he seemed to move more avidly, as if freed from past and future in this canyon beyond words.

Animals' lives are so short, I thought, watching George.

With silent joy I hunted high on the cliffs of my morning side of the canyon. In my hunting territory like a great cat with leathery hands and feet, I crept along my granite ledges. Stalking my chuckwallas, I sprang down on them while their mouths were full of flowers. Devouring them! But sometimes I allowed a chuckwalla who pleased me to escape, so that I could catch it again and again until my hunger raged and I became one with it. With a filled belly, I lazed on my high ledge like a bobcat, with slitted eyes peering through the net of my verbal heritage.

I understood, my body shaking with silent laughter. Those Biblical prophets who *returned* from the desert were the *failures!* Unable to maintain oneness with their innermost silence, no longer fed by ravens, sickened by locusts and wild honey, the prophets returned from the desert loudly condemning Mankind from whom they had failed to escape.

Cop-outs! Unable to become one with the silence, they fled bleating back to their loud-mouthed cities. I waited for George to flee back into the net of words which had been growing around him since birth. You are too numb to feel all the tight strands of your cultural heritage. But all my life I have felt pain as the net tightened around me. Struggling in protest, I didn't understand what could be clutching me.

Even at the Multiversity, I still was stupidly trying to protest from inside their net of words. I was not as wise as some four-year old boys who stubbornly try to refuse to

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learn to talk. But finally I understood the one way out of the net. That hole scares people.

Masking their alarm with contempt, the Establishment immediately labeled my wordless hole in their net as the No-Speech Movement, as if their Madison Avenue of words could fill the tiny hole in their net of words. Such a tiny hole! In the silent canyon, I still was struggling to escape through it.

I shivered on my granite ledge with my intricately woven verbal strands of thoughts inextricably tightening around me. Even voiceless, I knew I was trapped in the net of words until I could think without words, live without verbal thought, becoming unaware of thought, freely live. Like an animal seeking freedom, I would creep closer to the Great Bend. Where the cliffs leaned inward and the bobcat's urine scent marked the rocks of its hunting territory, I shrank back from the Great Bend. Please believe me, I was not afraid of the bobcat.

Raging, as if trapped in my own tiny territory by the last two strands of the net, I spied across the canyon at Sarah and George, and silently raged at them. Please believe me, you iron-faced cops with your injection making my hand write like mad, truly I killed nothing which was human. I killed a bobcat.

Without words they scurried in their thin afternoon sunlight as if they had forgotten me long ago. She was building a nest in their open wind-cave. Sometimes when he was away hunting, my heart would pound, and I would imagine myself creeping into her cave.

Tsee-tsee, a bird cried, and on my distant ledge I shrank back into my silent oneness, wishing. Dreaming George would die—

Somewhere boulders rumbled like thunder, and I was running away. Do you believe me?—Across the canyon in the afternoon sunlight, from his avalanching rock slide the dust cloud rose like a nuclear mushroom. As swirling dust shrouded our canyon, I heard an animal squall from his rock slide, a raucous shouting I did not recognize until the hair along my spine prickled, and I realized I was hearing the same word again and again. In agony George was crying the world's most important word. It was the word which launched civilization but has only four letters. To me, it was the most terrible four-letter word.

Seized between jaws of fallen rock, he was screaming that word. Through the hard rain of dust, his imploring verbal net swirled around me as I shrank back. His hoarse voice was squalling that four-letter word again and again, fainter and fainter as I fled toward the ultimate silence.

The Great Bend loomed ahead. Between its inward leaning cliffs,

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I crept past the urine-scented rock with which the bobcat guarded its territory. With hissing breath, I scurried along the curving canyon. On and on the cliffs curved as if the Great Bend had no end. Its cold wind hissed against my bushy face.

The wind changed, creeping across my back, filling my nostrils with the fetid meat scent of the bobcat as I turned. In the dusk, I was unable to see it stalking me. I kept glancing back. As I hurried along the narrowing canyon, the deepening cliffs of the Great Bend curved as if forever inward into the mountain of geological time. In the narrowing darkness, my widespread hands touched opposite cliffs. I stumbled over fallen boulders in this vertical crevasse which seemed to have no end. Between stone jaws, I lay on a narrow strip of sand on my back, staring up at the distant cleft of starlight.

Up there against the stars emerged a little roundish silhouette with pointed ears, the bobcat's head appearing high above me. I stood up, intending to shout with my unused voice, to warn that I was a man, to fear me! My voice rasped out a startling animal squall. The bobcat vanished for a moment.

For months? Shadowy mornings. Weak sunlight briefly reaching in at noon. Shadowy afternoons. In the silence down here. My thoughts scattering toward wordlessness. Inward turning outward. Thinning sunlight on a lizard crawling. My hunger commanding. Crunching little bones between my jaws. Sucking back the bloody spittle. Seeking inward-outward in the perfect silence.

Intruder's odor in my narrow territory. Its round tracks upon my sand. Its scent challengingly sprayed. Where my urine scent had marked my territory. I crouch. At night it squalls, and I squall back, hungering outward. Ravenous. My innermost essence crouches in ambush. My boulder upraised. Its crushed squall. With my teeth tearing the bobcat's hot flesh. Growling in my canyon. I am the largest carni—carniv—? Killer.

Almost free of words. Warmer sunlight. Misty rain. Green bushes growing. Spring buds. Robbing bird's nest. Enlarging my territory. Into the approaching summer sun.

Grandfather sun dazzling. There was another. Her name was? Seasons ago. Nine months? Hot-loined restlessness. Hunting down the canyon. Past inward leaning cliffs and out. High ledges strangely familiar. This morning side of the canyon must have been my territory long ago.

Fear is the afternoon side of the canyon where something bigger once lived. But I feel bigger now. Snarling. Creeping more slowly. Alert to flee from his territory. From his rock slide a musty smell.

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The hair on my spine prickles. Creeping up that motionless rock slide. Motionless. Long white leg bones crushed under the rocks. His leathery skull and white teeth. Name of George?

All around him. So many lizard bones. As if something fed him. After the jaws of the rock slide trapped him. Something carried lizards to him. Something tried to lever away the rocks. With sticks that broke. Beside the lizards' bones. So many lizards were. Carried to him. Day after day. Trying to keep him alive. Her footprints gone. In the wind-cave. In her nest. The scurrying of pack rats. In the silence. Sarah? Pack rats fleeing from—?

Who? I am the largest animal in the world. With a boulder. I smash his leathery skull. His territory is mine. My hunger rages. Hunting down the canyon. Its mouth opens on to glaring sand. Where something began. And I shrink back. From a burned and crumpled metal monster. Its engine rusted. Its rotor half buried in the sand. I would kill it. But it is dead.

Inside its metal skeleton. A nest of branches and sand. Handprints smaller than mine. Scent triggering my hunger. My muscles swelling. My heart thudding. Even faster than when I killed the bobcat. Faster than rage. Crawling after this scent.

I hear it scrambling away through the bushes. Glimpse it escaping. All that meat! With ungainly belly, it scrambles away from me. Through branches crackling. Its entangled hair. I lunge. Its huge belly turning. Its mouth opening in wordless terror like a lizard. As my shadow engulfs. Her swollen belly heaving as if with a life of its own. Her eyes widening. Her mouth opening. Wordless as a lizard. Trying to remember. She gasped the same word!

It was the same four-letter word that George cried as if it is the most powerful of all words.

Believe me, you iron-faced cops. How could I have murdered anyone? Three of us went into the desert. Three have returned.

As I seized her, she gasped. Wordless, her thin face was straining upward as if trying to remember that word. Her thin hands tried to protect her huge belly. Contorted by her contractions, she gasped that first civilizing word, the most powerful of all four-letter words. In a strange little voice, Sarah gasped: "—help."

And I—I—I as if from a distance heard my body snarling. In giggling surprise like a maniac, I felt myself turning inside out. In giggling horror at my own helplessness, I struggled in the net of her one word. My frantic hands were forced to help.

With silent determination, her lips squeezing white with agony, Sarah gave birth to a loud,

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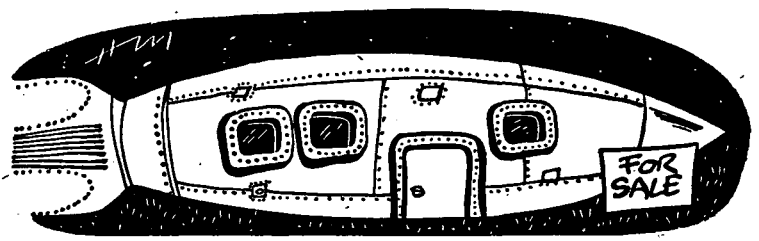
mewing sound, to an angry squall.

I helped it struggle out. I held him squirming in my cupped hands. "George?" I giggled aloud. I asked him. "George?" I'd spoken.

Cop-out! In failure we have returned from the desert. Sarah's newborn baby squalling like an angry prophet, we three have returned to your insane world of words.

You iron-faced cops can't charge me with murdering that earlier George. Death's only a word.



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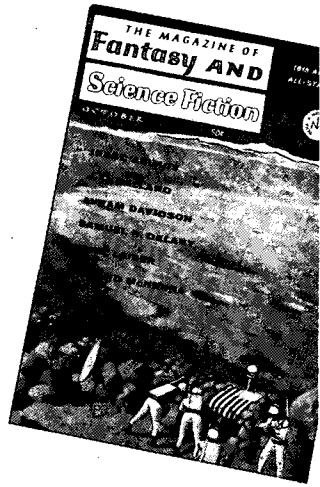

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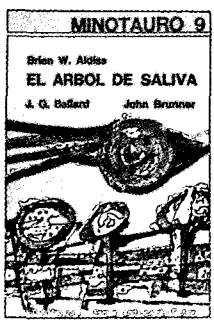

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